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ABSTRACT

As the first part of the report of the Programme Commission II, a summary of discussions on plans for natural sciences and their applications is presented in this document. The two agenda items are: (1) detailed consideration of the 1973-74 draft program and budget and of the 1973-78 draft medium-term outline, and (2) desirability of adopting an international instrument on the status of scientific research workers. Besides the administrative aspects, the topics concentrate on science policy, promotion of scientific and technological research and higher education, environmental sciences, natural resources, and activities of the field science offices. The areas covered in environmental sciences include ecology, earth sciences, hydrology, and oceanography; and scientific and technological information is the main concern in discussions on scientific cooperation. The report of the working party on priorities for consideration by the commission is also discussed in detail with a copy included as an appendix. (CC)

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REPORT OF PROGRAMME COMMISSION II (NATURAL SCIENCES)

Item 13.3 - Detailed consideration of the Draft Programme and Budget for 1973-1974 and of the Draft Medium-Term Outline Plan 1973-1978, Part II - Programme Operations and Services

Item 26 - Desirability of adopting an International Recommendation on the Status of Scientific Research Workers

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COMMISSION FOR SCIENCE

REPORT

CONTENTS

INTRODUCTION

Election of Officers

Organization and method of work

ITEM 13.3 - DETAILED CONSIDERATION OF THE DRAFT PROGRAMME AND BUDGET FOR 1973-1974 AND OF THE DRAFT MEDIUM-TERM OUTLINE PLAN 1973-1978 PART II - PROGRAMME OPERATIONS AND SERVICES

Chapter 2 - Natural Sciences and their Application to Development

General discussion

Sub-Chapter 2.1 - Science Policy and Promotion of Scientific Co-operation

Section 2.11 - Science in the 1970's
(Discussion Unit SC.1)

Section 2.12 - Science Policy, Programming and Financing
(Discussion Unit SC.1)

Section 2.13 - Scientific and Technical Information
(Discussion Unit SC.2)

Directing Staff and Budget

Sub-Chapter 2.2 - Scientific and Technological Research and Higher Education

Section 2.21 - Scientific Research and Higher Education

Section 2.22 - Technological Research and Higher Education
(Discussion Unit SC.4)

Directing Staff and Budget

Sub-Chapter 2.3 - Environmental Sciences and Natural Resources Research

Section 2.31 - Ecology and the Earth Sciences
(Discussion Unit SC.4)

Section 2.32 - Hydrology
(Discussion Unit SC.5)

Section 2.33 - Oceanography
(Discussion Unit SC.6)

Directing Staff and Budget

Field Science Offices, Office of the Assistant Director-General
Resumés and Introductions

(Discussion Unit SC.7)

Examination of the Report of the Working Party on Priorities

ITEM 26 - DESIRABILITY OF ADOPTING AN INTERNATIONAL INSTRUMENT ON THE STATUS OF SCIENTIFIC RESEARCH WORKERS

Appendix - Report of the Working Party on Priorities for Consideration by Commission II

INTRODUCTION

Election of Officers

1. The Commission, at its first meeting held on 18 October 1972, unanimously elected as Chairman, H.E. Dr. Mustafa Kamal Tolba (Arab Republic of Egypt).

2. At its second meeting, held on 24 October 1972, the Commission elected by acclamation three Vice-Chairmen: Dr. Aklilu Lemma (Ethiopia), Dr. István Láng (Hungary) and Dr. Lisandro Lattuf (Venezuela). Professor J.L. Still (Australia) was elected Rapporteur by acclamation.

Organization and method of work

3. The Commission for Science, on which all Member States and Associate Members may be represented, was constituted in accordance with the decision taken by the General Conference in Plenary Session on 18 October 1972. The agenda items referred to the Commission were the following:

Item 13: Chapter 2 of Part II of documents 17 C/5 and 17 C/4

Item 26: Desirability of adopting an international instrument on the status of scientific research workers.

4. Between 24 October and 4 November 1972, the Commission devoted 14 meetings to the discussion of Item 13 of the agenda, the first being reserved for a general debate on the whole programme of the Science Sector. Item 26 was dealt with at the meeting held on the afternoon of 3 November. The Commission met again on 7 November to adopt the present report.

5. At the first meeting, the Assistant Director-General for Science made the following statement on behalf of the Director-General:

5.1 Since the issuance last April of his Draft Programme and Budget for 1973-1974 (document 17 C/5), the Director-General has revised, in document 17 C/5 Revision dated 13 July 1972, the budget estimates. This revision reflects reductions in staff costs and in temporary assistance, staff travel, consultants and hospitality totalling $1,109,000 on the one hand, and an increase of $8,558,611 in order to align the budget estimates with the new rates of exchange between the U.S. dollar and the French franc and other currencies on the other. The revised budget estimates amount to $119,954,611, a net increase of $7,449,611 over the original amount proposed in document 17 C/5 ($112,505,000).

5.2 With a view to reducing documentation, and to avoid confusing the reader, the details and summary tables in document 17 C/5 have not been re-issued at this stage. The appropriation table alone has been revised to reflect this net increase of $7,449,611.

5.3 Consequently, to facilitate orderly proceedings at the Programme Commissions, it is suggested that all references be to the figures given in document 17 C/5, it being understood that in the reports of the Programme Commissions the figures affected will be brought up to date. The staff member from the Bureau of the Budget attending each of the Programme Commissions will be prepared to give the revised figures if and when requested.

6. In view of the fact that the Commission had adopted, and was likely to adopt, a number of draft resolutions whose implementation would require funds over and above those provisionally allocated in the revised budget for 1973-1974, the Chairman proposed, and the Commission agreed on 30 October, that a Working Party of the Commission be set up in order to establish priorities among these proposals. He proposed, and the Commission agreed, that the Working Party should be composed of the delegates of the People's Republic of Congo, Japan, Mexico, Romania, Sudan and Switzerland, together with the Vice-Chairman of the Commission. Dr. István Láng was appointed Chairman of this Working Party. The Working Party held meetings between 30 October and 3 November, and its Chairman presented its suggestions to the Commission at its meeting on 4 November (see Appendix to this report).

7. In accordance with recommendations of the General Conference, the present document contains only a narrative and explanatory summary of the discussions of the Commission. The recommendations which the Commission submits for adoption or approval by the General Conference in plenary session (resolutions, budgetary appropriations, etc.), are reproduced separately (17 C/96 Annex-Recommendations). These two documents together constitute the report of the Commission.

ITEM 13.3 - DETAILED CONSIDERATION OF THE DRAFT PROGRAMME AND BUDGET FOR 1973-1974 AND OF THE DRAFT MEDIUM-TERM OUTLINE PLAN 1973-1978, PART II - PROGRAMME OPERATIONS AND SERVICES

Chapter 2 - Natural Sciences and their Application to Development

General discussion

8. With its Chairman, Dr. Mustafa Kamal Tolba (Arab Republic of Egypt) presiding, the Commission devoted one morning and a good part of one afternoon to a general debate on the chapters concerning natural sciences and their application to development.

9. The debate began with an introduction by the Director-General, followed by a statement by the Assistant Director-General for Science concerning the interpretation of the budgetary figures in the Draft Programme and Budget for 1973-1974 in the light of the modifications indicated in document 17 C/5 Revision. Mr. Bernard B. Dadié (Ivory Coast), Vice-Chairman of the Executive Board, outlined the main points contained in the Board's recommendations concerning the Draft Programme and Budget for 1973-1974 (17 C/5) and the Draft Medium-Term Outline Plan for 1973-1978 (17 C/4).

10. Seventeen delegates took the floor in the debate, from which the general opinion emerged that the proposed programmes and plans for natural sciences and their application to development were on the whole acceptable. In particular, the focusing of the Organization's scientific activities on major international programmes (such as the establishment of a World Science Information System (UNISIST), the Man and the Biosphere Programme (MAB), the International Geological Correlation Programme (IGCP), the activities of the Intergovernmental Oceanographic Commission and the programmes in hydrology) met with the approval of all who spoke. Several speakers also underlined the value of the science policy programme.

11. On the other hand, a number of speakers were critical of certain aspects and particular items of the programme, and a number of specific suggestions and wishes were voiced during the debate. The essence of these comments is recorded in the paragraphs below.

12. Several delegations stressed their concern with the problem of underdevelopment. Unesco should increase its scientific assistance to developing Member States, with the aim of promoting on the one hand the development of their national scientific and technological potential, and on the other hand the implantation and development of endogenous systems of science and technology which, by their very nature, would be better suited to local requirements. Unesco should also facilitate communication between scientists in Third World countries.

12.1 One particular instance of this problem was mentioned by three delegations, which hoped that Unesco's rôle in the field of scientific and technical information might be extended to include the popularization of science among non-scientists.

13. Some delegations stressed the importance of inter-sectoral co-ordination within the Organization, and the need for improved co-ordination between the activities of Unesco and those of other Specialized Agencies of the United Nations, of other intergovernmental organizations and of international non-governmental organizations.

14. One delegation warned the Organization against the temptation to adopt "dirigiste" attitudes in the matter of science policy when offering assistance to developing countries who had requested it.

15. The same delegation also voiced doubts concerning the excessively negative view of the impact of science and technology on human society expressed in the Introduction to Chapter 2 of the Draft Medium-Term Outline Plan for 1973-1978.

15.1 In this connexion, another delegation expressed the opinion that little in the way of results could be expected from a study of the social implications of science.

16. Several delegations hoped that the Draft Medium-Term Outline Plan would become more than a mere projection of the biennial programme, and that it would lay down the major lines of development of the Organization's scientific activities, define its objectives and describe more clearly the results expected from the proposed research activities.

17. One delegation suggested that future medium-term plans should try, as far as possible, to present the General Conference with alternative programmes for it to choose from.

18. Several delegations raised the question of renewal of the Organization's programmes. The attention of the Commission was drawn to the fact that the gradual introduction of new activities would require the termination, as and when appropriate, of certain current programmes. In this connexion, one delegate reminded the Commission of the intention expressed in document 16 C/4 that the period of subvention to institutions should not normally exceed ten years. He also expressed concern with the statement in document 17 C/4 that the co-operative scientific programmes should be regarded as without time limit.

19. Several delegations expressed their satisfaction with the Director-General's proposals for the reinforcement of the regional science offices.

19.1 In this connexion, one delegation wondered whether it might not be more effective to create regional offices with multiple responsibilities (science, education, culture) than to encourage the establishment of a variety of specialized offices.

20. One delegation proposed that Unesco carry out an evaluation of the mechanisms and methods for the development of international scientific co-operation.

21. The delegate of the United Kingdom drew attention to the large number of draft resolutions calling for additional funds. As so many requests came from a single geographical region, he warned the Commission of the risk of an

imbalance in Unesco's programme. The delegate of the Arab Republic of Egypt said that the proposals submitted by his delegation were not intended to benefit only a certain region; they had been inspired by the need to promote international and regional co-operation and the progress of science in developing countries. This could not be achieved without the necessary funding.

22. One delegation referred to the conclusions and recommendations of the first Conference of Ministers of the European Member States responsible for Science Policy (MINESPOL, Paris, June 1970) and to the recommendations of the recent meeting of science policy experts designated by the governments of the European Member States (Budapest, July 1972). It expressed the opinion that the results of MINESPOL and the Budapest meeting should find clearer reflection in the Draft Programme and Budget for 1973-1974.

23. Several delegates paid tribute to the work of Professor Buzzati-Traverso during his term as Assistant Director-General for Science, and expressed their good wishes to him.

24. The debate ended with replies by the Director-General to the questions of general policy raised by different speakers. The Director-General took the opportunity to call the attention of the Commission to the substantial increase, amounting to approximately ten per cent, in the budgetary provisions for the Science Sector during the 1973-1974 biennium. That increase concerned only the Regular Budget; extra-budgetary resources were not, unfortunately, developing at the same rate. He stressed the need for Unesco to make its own contribution to the large-scale international scientific programmes in which other organizations were invited to participate. He pointed out that, within the major and continuing subjects of environmental study, the international programmes had specific targets to be reached within specific deadlines, and he welcomed with interest the idea of submitting alternatives in future medium-term plans.

Sub-Chapter 2.1 - Science Policy and Promotion of Scientific Co-operation

Section 2.11 - Science in the 1970's: The Human Implications of Scientific Advance

25. The Chairman drew the attention of the Commission to the relevant documentation, and in particular to draft resolution 17 C/DRs. 67, 134, 150 and 151, together with the recommendations of the Resolutions Committee on these texts.

26. The delegate of Belgium introduced draft resolution 17 C/DR.67, relating to the publication of regional popular scientific journals.

27. The delegate of Peru introduced draft resolution 17 C/DR.134, suggesting an amendment to sub-paragraph (a) of proposed resolution 2.11.

28. The delegate of Cuba introduced draft resolution 17 C/DR.150, recommending in its operative part, the proscription of scientific work directed towards the destruction of man and his environment.

29. In the debate which ensued, the delegates of twenty-four Member States took part.

30. All speakers welcomed the idea of studying the human implications of scientific advance. However, a number of delegates considered that the programme as presented was too vague and imprecise and expressed the desire that an effort be made to remedy this; an alternative draft of paragraphs 2016-2018 of the Work Plan was examined by the Commission.

31. The proposed programme on the promotion of public understanding of science was widely appreciated and was frequently mentioned as the possible beneficiary of funds from savings on other parts of the programme. One delegate said that he would be prepared to support a larger appropriation in this field. Two delegates expressed strong support for the project to support science writers' associations etc.

32. The delegates of three African countries congratulated Unesco on the success of the Lusaka Seminar on the Promotion of Public Understanding of Science and Technology held in November 1971.

33. The proposed series of lecture tours (para. 2026 of document 17 C/5) was strongly criticized, 14 delegates speaking against it and only one defending it as potentially valuable if requested. Many delegates suggested that the funds allocated to this paragraph in document 17 C/5 be transferred to other activities in this sub-section.

34. Several delegates considered that, in its present form, "impact" was of doubtful value, claiming that it was of routine nature and marginal in its effect. One delegate suggested that it might be a vehicle for publishing selected papers from Unesco meetings and conferences.

35. Some delegates did not favour an increase of the staff for this relatively small component of the programme (para. 2030 of document 17 C/5).

36. Several delegates commented favourably on the potential value of the publication "Science in the 70's" (para. 2028); two of them expected to have it translated into their respective national languages, and a third felt it might have implications for development.

37. On more general issues, several delegates spoke about the inadequacies of conventional science and technology in satisfying their growth-and-development needs, in the absence of parallel inputs from social science, political science and philosophy. Three delegates spoke of the need to help developing countries to avoid the social "mistakes" of the developed countries, that is to say, not to follow blindly the paths which developed countries have taken in the past.

38. It was suggested that the Unesco science prize (para. 2024) be reviewed in recognition of the fact that it cannot compete with the Nobel prize. It was suggested that it might be awarded on a regional rather than a world-wide basis. In this connexion the delegate of Switzerland stated that the Swiss National Commission for Unesco was envisaging the institution of a Prize, in Switzerland, for encouraging the vocation of science writer.

39. The Assistant Director-General responded, acknowledging that the projected study of human implications of scientific advance was somewhat incompletely defined. He pointed out that issues of this character have arisen in the context of other meetings and that the problems seem to be of such magnitude and of such difficulty that they will be with us for a long time. Hence a long-range programme had been proposed.

40. He pointed out that many of the problems to be studied are frequently discussed at the national level, but rarely at the international level. He envisaged a confrontation of views between various political sectors of the developed world, and between the developed and underdeveloped countries.

41. The Assistant Director-General explained the reasons for the proposed increase in staff for this section. The proposed three professional staff members would be: (i) the Editor of Impact; (ii) a science writer to handle the promotion of public understanding of science (post transferred from the Office of Public Information); and (iii) one professional in charge of the study of human implications of scientific advance.

42. Finally, he thanked several delegations for suggesting innovations in this field and replied to several questions of a factual or technical nature.

43. The Commission adopted, by 20 votes in favour, 14 against and 8 abstentions, an amendment presented orally by the delegate of the Union of Soviet Socialist Republics, to delete the words "to undertake a long-range programme on the relationship of science to society, and, in particular", from the introductory sentence of proposed resolution 2.11 (paragraph 2015 of document 17 C/5).

44. The Commission adopted, by 42 votes in favour, 2 against and 11 abstentions, draft resolution 17 C/DR.134, amending sub-paragraph (a) of proposed resolution 2.11 to read as follows:

(a) "to study the implications of science and technology for the life of man and human societies and for international relations from the point of view of development, social change and international justice."

45. An amendment to sub-paragraph (b) of proposed resolution 2.11, proposed orally by the delegate of India, and modified in the light of the ensuing discussion, was adopted by the Commission, with 54 votes in favour, none against and one abstention: the sub-paragraph was amended to read as follows:

(b) "to improve the public understanding of science and its relationship to society, in co-operation with National Commissions for Unesco and national bodies concerned with science policy."

46. The delegate of the United Kingdom proposed, as amendments to draft resolution 17 C/DR.150, that the third, fourth and fifth paragraphs of the preamble be deleted and that the operative paragraph be amended to read as follows:

"Draws attention to the undesirability of the misuse of science by society and invites the Director-General to examine any actions which may be taken to prevent such misuse and to report on the results of his examination to the General Conference at its eighteenth session."

The Commission decided:

by 21 votes in favour, 17 against and 5 abstentions, to delete the third paragraph of the preamble to draft resolution 17 C/DR.150;

by 20 votes in favour, 18 against and 13 abstentions, to delete the fourth paragraph of the preamble;

by 22 votes in favour, 18 against and 12 abstentions, to delete the fifth paragraph of the preamble;

by 29 votes in favour, 10 against and 14 abstentions, to amend the operative paragraph of draft resolution 17 C/DR.150 in the manner proposed by the delegate of the United Kingdom.

The draft resolution, as thus amended, was adopted by the Commission with 24 votes in favour, none against and 28 abstentions.

47. Draft resolution 17 C/DR.151 was noted by the Commission, with reference to paras. 2016-2017 of the Work Plan of Section 2.11.

48. The delegate of Upper Volta proposed, as an amendment to the Work Plan that paragraph 2018 be deleted and that the funds allocated to this paragraph be employed for national and regional activities in the promotion of the public understanding of science. The Commission rejected this proposal by 18 votes against, 16 in favour and 13 abstentions.

49. The delegate of the Union of Soviet Socialist Republics proposed as an amendment to the Work Plan, that paragraphs 2016, 2017 and 2018 be deleted and replaced by the following single paragraph:

> (2016) "Experts will assist Unesco in elaborating a programme of studies on the human implications of scientific advance. The draft programme will be submitted to Member States for examination and comment, early in 1974. The Director-General will present to the General Conference at its eighteenth session a report summarizing the comments of Member States and their suggestions concerning this draft programme."

This proposal was adopted by the Commission, with 24 votes in favour, one against and 24 abstentions.

50. The Commission decided, by 23 votes in favour, 6 against and 14 abstentions, to delete paragraph 2026 and to refer to its Working Party on Priorities the question of the use to be made of the funds allocated to this paragraph.

51. The Commission noted that the words "will be published" in para. 2027 of the Work Plan should be replaced by "will continue to be published."

52. The Commission adopted, by 42 votes in favour, none against and 2 abstentions, draft resolution 17 C/DR.67, with reference to para. 2025 of the Work Plan.

53. The delegate of the Union of Soviet Socialist Republics proposed, as an amendment to the Work Plan, that the staff proposed for this section in 1973-1974 (para. 2030 of document 17 C/5) be reduced from six persons to four. This proposal was rejected by the Commission by 20 votes against, 11 in favour and 16 abstentions.

Section 2.12 - Science Policy, Programming and Financing

54. The Chairman opened the meeting by inviting the sponsors to present draft resolutions 17 C/DR.68, 117, 168 Rev. and 242. He informed the Commission that, in accordance with the recommendations of the Resolutions Committee, draft resolution 17 C/DR.118 was to be taken note of without discussion or vote and that draft resolution 17 C/DR.149 would be forwarded to Commission I for its consideration.

55. The delegate of Argentina emphasized the positive influence to be expected from a strengthened relationship between ICSU and Unesco, and in this spirit presented draft resolution 17 C/DR.117.

56. The delegate of Italy, while expressing general support for the programme in Science Policy, Programming and Financing, drew attention to paragraph 2033 of 17 C/5 in presenting draft resolution 17 C/DR.168 Rev., co-sponsored by Yugoslavia.

57. The delegate of Ethiopia expressed his approval of the Science Policy programme and introduced draft resolution 17 C/DR.242, which was co-sponsored by Ghana, Kenya, Uganda, Nigeria, The United Republic of Tanzania, Sierra Leone, Sudan and Upper Volta. He gave special attention to resolution 2768 of the 26th session of the United Nations General Assembly, relating to priority needs of the 25 least-developed among the developing countries.

58. The delegate of the Arab Republic of Egypt welcomed CASTAFRICA as a Science Policy activity and presented draft resolution 17 C/DR.68 calling for a Conference of Ministers of Arab Member States responsible for the Application of Science and Technology to Development in 1976 (instead of 1977 as it originally appeared in 17 C/DR.68).

59. The delegates of 32 Member States took part in the discussion that followed. A statement was also made by the representative of the Council for Mutual Economic Assistance (CMEA). The majority of delegates expressed general support for the programme in Science Policy, Programming and Financing, outlined in documents 17 C/4 and 17 C/5.

60. A number of delegates expressed strong support for the constructive co-operation between ICSU and Unesco and agreed with the delegate from the United States of America in proposing that Unesco compile a list of specific examples in which Unesco has benefited in the past from the co-operation of ICSU and how much of the subvention was used for each example. Some delegates felt that most of ICSU's activities were confined to the developed countries and that, except for commissioning the Jones report, ICSU has given hardly any attention, in its activities, to the developing countries.

61. The delegates of ten Member States expressed support for the Conference of Ministers of African Member States responsible for the Application of Science and Technology to Development (CASTAFRICA), and supported draft resolution 17 C/DR.68 submitted by the Arab Republic of Egypt. The delegate of Senegal transmitted his Government's invitation to hold this Conference in Dakar in 1973. While welcoming CASTAFRICA, some other delegates felt that follow-up measures had not been taken to implement the recommendations of the Lagos and CASTASIA conferences, held in 1964 and 1968 respectively, and drew attention to the need for Unesco to provide financial support for this purpose.

62. The delegates from several Member States urged that steps be taken to follow-up and implement the recommendations of the Budapest meeting which followed the 1970 MINESPOL Conference in future Science Policy programming activities, and that for this purpose, Unesco should collaborate closely with science policy organizations in the countries concerned.

63. "With regard to its rôle in the framework of future sub-regional co-operation envisaged in para. 3 of draft resolution 17 C/DR.168 Rev. the Austrian delegate stressed the importance of the Scientific Co-operation Bureau for Europe as a clearing-house and stimulus for European co-operation in the field of Science and Technology."

64. The delegates of six Member States expressed approval of the assessment of the efficiency and effectiveness of research units as related to the organization and management of research and experimental development. Two of these delegates expressed a desire to participate in future stages of this project.

65. The delegates of five countries, in their interventions, expressed support for draft resolution 17 C/DR.242 submitted by a group of African Member States and endorsed the need for strengthened Science Policy activities in the least developed nations.

66. The delegates of four Member States expressed strong support for a feasibility study to be made on the establishment of a science policy information service based upon the Thesaurus compiled in 1971-1972 by the Science Policy Division of the Secretariat. The delegates of three Member States, however, expressed reservations toward this project. One delegate asked that the report on the feasibility study be presented to the General Conference at its eighteenth session.

67. The delegates of several Member States expressed strong support for the assistance programme to Member States outlined in paragraphs 2043 to 2047 of 17 C/5. They specifically endorsed the fellowship and travel grant activity, the proposed sub-regional symposia and the support given by documents in the series "Science Policy Studies and Documents". One delegate suggested the need for a study to be undertaken by Unesco to help developing countries improve their methods of financing science and technology development. Several delegates expressed concern with an apparent lack of funds available to enlarge upon this activity.

68. In this same connexion several delegates expressed strong reservations regarding the identification of country needs as outlined in paragraphs 2048 and 2049 of the Work Plan in 17 C/5, objecting that Unesco should not become involved in the establishment of national priorities.

69. Delegates of two Member States felt that Unesco should play an active rôle in preparations for the forthcoming European Security meeting on science and technology issues. The delegates of three Member States expressed strong reservations concerning Unesco's co-operation in this effort.

70. On behalf of the Nordic countries the delegate of Finland expressed the view that the development of a more comprehensive science policy by Unesco would require changes to be made in the organizational structure in order to bring eventually all science discipline under one heading.

71. In his statement, the representative of CMEA said that the Member States of his Organization were proceeding with science policy consultations on a 15-year planning term for the consideration of questions of importance to all CMEA Members.

72. In his reply, the Assistant Director-General for Science noted that this discussion had prompted more speakers than any prior discussion in Commission II during this session of the General Conference. In response to the discussion on draft resolution 17 C/DR.242, he suggested that, if accepted by the Commission, this resolution be placed at the beginning of the Science Chapter of 17 C/5. Regarding Unesco's possible involvement in the Conference on European Security, he pointed out that there was no other all-European intergovernmental machinery existing which could help the Conference regarding science matters.

73. The Assistant Director-General noted that an effort to avoid duplication in documents is a constant preoccupation of Unesco and that continued emphasis would be placed on this matter. He strongly endorsed the need to ensure the quality of the documents prepared by Unesco.

74. Regarding the relationship between ICSU and Unesco, the Assistant Director-General emphasized the need for close co-operation between the two organizations but noted that ICSU should avoid duplicating activities which have already been undertaken by Unesco.

75. The Assistant Director-General noted that ministerial conferences represent a tremendous workload for the Secretariat and, as such, must be limited in number. He thanked the delegate of Senegal for the invitation to hold CASTAFRICA in Dakar in 1973 and informed him that the Director-General had already accepted this invitation.

76. The Assistant Director-General affirmed that Unesco had no intention to impinge on national sovereignty with respect to the priorities and selection of developmental needs, but felt that it had an obligation to help Member States use the science policy structures it had helped them to create. He noted, in conclusion, that the proposal by Bulgaria to host the second MINESPOL Conference as well as a Science Policy Symposium, will be taken into consideration along with the proposal for seminars on methods of financing science and development activity in developing nations.

77. The Commission adopted, by 52 votes in favour, 2 against and 10 abstentions, draft resolution 17 C/DR.242, on the understanding that it would appear at the beginning of the Science Chapter of 17 C/5.

78. The Commission adopted draft resolution 17 C/DR.117 by 44 votes in favour, none against and 8 abstentions.

79. The Commission decided by 47 votes in favour, none against and 5 abstentions, to amend sub-paragraph (d) of proposed resolution 2.12.1 by adding the words "in collaboration with other intergovernmental organizations active in this field" after the word "undertake".

80. The Commission decided by 42 votes in favour, none against and 13 abstentions, to adopt the first paragraph of draft resolution 17 C/DR.168 Rev. and to recommend that sub-paragraph (e) be added to Part I of the proposed resolution 2.12.1 in document 17 C/5.

81. The Commission decided by 50 votes in favour, none against and 2 abstentions, to adopt an amended paragraph 2 of draft resolution 17 C/DR.168 Rev. adding the following sentence to paragraph 2042 of the Work Plan after the word "Europe": "... and possibly to assist in establishing sub-regional co-operative arrangements in specific branches of science between research institutes and universities, open to participation by other countries".

82. The Commission decided by 25 votes in favour, none against and 24 abstentions, to adopt the third paragraph of draft resolution 17 C/DR.168 Rev. adding after paragraph 2042 a new paragraph worded as follows:

> "To this end, the Scientific Co-operation Bureau for Europe will co-ordinate the action taken by the competent divisions of the Science Sector to facilitate the implementation of the projects which will be conducted jointly by the countries concerned, if the interested countries approach Unesco for assistance in these projects".

83. The Commission decided, by 22 votes in favour, 5 votes against and 26 abstentions, to amend paragraph 2041 of the Work Plan, replacing the last sentence by: "Three such sub-regional seminars (Category VII) will be organized, one for South East Asia, one for South Asia and one for Latin American countries".

84. The Commission decided, by 32 votes in favour, none against and 19 abstentions, to add to paragraph 2048 of the Work Plan a third sub-paragraph, as follows:

> "(iii) seeking means for long-term financing for such projects (UNDP, World Bank, etc.)

85. The Commission decided by 38 votes in favour, none against and 16 abstentions, to adopt the amended draft resolution 17 C/DR.68 as an addition to paragraph 2041 of document 17 C/5.

Section 2.13 - Scientific and Technical Information

86 The delegates of 31 countries took part in the discussion of this section, (the delegate of Finland speaking also on behalf of Sweden, Norway and Denmark).

87. All the speakers expressed their strong, and in some cases enthusiastic, support of the UNISIST programme which they considered to be one of the most important projects currently being implemented by Unesco.

88. Several speakers expressed the view that, while active participation of the Member States was critical to the success of the UNISIST programme, it was also vital to ensure close co-operation between Unesco and the United Nations Specialized Agencies and other competent international governmental and non-governmental organizations.

89. The need for developing the UNISIST programme in close co-operation with the world scientific and engineering community, represented in particular by the International Council of Scientific Unions (ICSU) and the World Federation of Engineering Organizations (WFEO), was also stressed by many delegates.

90. Some delegates expressed their concern with the question of co-ordination of activities between the Division of Scientific Documentation and Information (SDI) and the Department of Documentation, Libraries and Archives (DBA), and suggested that UNISIST should at some future stage be turned into an inter-sectoral programme. Other delegates, while recognizing the necessity of close co-operation between SDI and DBA, preferred that the UNISIST programme should remain within the Unesco Science Sector, feeling that this would help maintain contact with the scientific and engineering world.

91. One speaker urged that, with a view to eliminating all risk of duplication of effort within Unesco, the Director-General should establish within the Unesco Science Sector a UNISIST Programme Co-ordinating Committee with representation from all sectors of Unesco whose activity impinged on the UNISIST programme, and proposed to incorporate this as a part of the resolution 2.13. The Chairman having pointed out the procedural difficulties arising from the fact that no proposal to this effect had been brought before the Resolutions Committee, the delegate did not press a formal amendment on this point.

92. Another speaker proposed that, already at the initial stage of its implementation, the UNISIST programme should be extended to include the social sciences. Other delegates felt, on the other hand, that it would be prudent to concentrate effort, in the first place, on some well-chosen projects within the five objectives of the UNISIST programme, restricted initially to science and technology.

93. Considerable satisfaction was expressed with the provisions made in the UNISIST programme for meeting the needs of the developing as well as those of the developed countries.

93.1 On several occasions, doubt was however expressed as to whether the UNISIST programme could be immediately adapted to developing countries, which in general lacked the necessary infrastructure. One speaker stressed that UNISIST should promote the development of existing scientific and technical information infrastructures in developing countries rather than create new infrastructures.

93.2 One speaker regretted that the UNISIST programme, as at present conceived, did not foster the exchange of scientific and technical information between developing countries.

93.3 Some disappointment was expressed with the Work Plan set out in document 17 C/5 (Section 2.13), in that it did not reflect the UNISIST Intergovernmental Conference recommendations concerning the complex and urgent needs of developing countries. The delegate who voiced this regret also considered that, in addition to UNDP funds, other extra-budgetary resources should be sought for the implementation of the UNISIST programme.

93.4 It was also felt in several quarters that UNISIST should give high priority to needs which were specific to the developing countries, viz.:

- the training and education of information specialists through regional training courses and fellowship plans;

- the creation of regional centres of scientific and technical information which would ultimately become self-reliant, so as to facilitate the linking of developing countries to the main sources of scientific and technical information;

- the establishment of co-operative schemes for contributing to and participating in translation services.

94. The wish was expressed by the delegate of Ghana, that the idea set out in document 17 C/DR.35, submitted by the Arab Republic of Egypt, should be expanded so as to allow Africa to be included in the pilot project scheme (17 C/5, para. 2090). The sponsor of document 17 C/DR.35 signified his ascent to this suggestion.

95. It was considered by several delegates that the proposed UNISIST Steering Committee should meet more frequently than envisaged by Article 3 of the Draft Statutes of the Committee (17 C/63 Appendix 1). Annual meetings, it was urged, would assist the Steering Committee to overcome the many problems UNISIST must expect to encounter during the early years of its implementation.

95.1 An alternative view was expressed by one delegate, who felt that the Bureau of the Steering Committee should be able to meet as and when it felt the need to do so.

96. The composition of the Steering Committee generated much interest during the discussion.

96.1 Some speakers suggested that half of the members of the Steering Committee should represent the developing countries among Unesco's Member States. Others attached great importance to the careful selection of representatives in the Steering Committee, so that this body would have the necessary prestige, competence and influence in the field of scientific and technical information.

96.2 One speaker considered that the UNISIST managerial body as now proposed would prove too cumbersome. He proposed that UNISIST should take as a model the organizational structure of the Unesco "Man and the Biosphere" (MAB) programme. Another delegate stated that, as an institution, the UNISIST Intergovernmental Conference had now outlived its usefulness.

97. It was noted that national support is already being given to the UNISIST programme by means of the creation of various UNISIST National Committees and Working Groups, as well as by the provision of financial support for several projects within the framework of the UNISIST programme.

97.1 In this connexion the delegate of Canada offered his country's co-operation with the UNISIST programme, through the National Research Council, by providing services for the selective dissemination of information.

98. Widespread support was expressed for the idea of publishing a UNISIST Newsletter, in order that the Member States of Unesco and other interested bodies be kept fully informed on the latest developments in the implementation of the UNISIST programme and related activities.

99. The Assistant Director-General for Science made a number of statements and replied to questions raised during the discussion. He said that the fact that 31 countries had taken part in the discussion was very encouraging, thanked the delegates for their constructive comments and suggestions, and expressed appreciation to those countries which were already actively contributing to the implementation of the UNISIST programme.

99.1 He also assured the delegates that the UNISIST programme was being developed in close co-operation with United Nations Specialized Agencies and other competent international governmental and non-governmental organizations. In his view, it could fairly be claimed that the needs of developing countries were adequately provided for in the UNISIST programme, since three of the five UNISIST programme objectives were directly related to these needs.

99.2 Concerning the proposal to turn UNISIST into an inter-sectoral programme, he reminded the Commission that Unesco had a vertical structure which made it far from easy to accommodate such programmes. If the UNISIST programme were to be successful, the Science Sector must, he felt, be entrusted with the substantive responsibility for its implementation. This did not of course exclude co-operation with the other sectors of Unesco; indeed he strongly supported the idea put forward by one delegate, of setting up a UNISIST Programme Co-ordinating Committee within the Science Sector of the Secretariat.

99.3 He also supported the proposals contained in 17 C/DR.35, and its proposed amendment, and agreed with the Chairman's suggestion for postponing till a later stage of the Commission's deliberations any discussion of the financial commitments involved in the approval of this and other draft resolutions which would require additional funds for their execution.

99.4 In this last connexion, and as an example of one way in which the problems of finding further funds could sometimes be solved, he pointed out that the money needed for publishing the proposed UNISIST Newsletter could be absorbed by Unesco overhead expenses. This would be reflected in the revised Work Plan contained in document 17 C/5, Section 2.13.

100. At the conclusion of its debate, and upon a proposal from the Chair, the Commission adopted by 53 votes in favour, none against and 18 abstentions, the procedure to be followed in the case of all draft resolutions requiring additional funds for the execution of new or increased programme activities:

(a) as a first step the Commission should vote on the substance of the draft resolution, which would then be passed on to a Working Party on Priorities, to be created by the Commission;

(b) the Working Party should establish a list of priorities of the draft resolutions, corresponding financial estimates and possible reallocation within the Regular Programme;

(c) the Working Party's proposals would then be submitted to the Commission for final voting.

101. In discussion on document 17 C/DR.35 the delegates from the Arab Republic of Egypt, the United Kingdom, the Netherlands, the USSR, Peru, Romania, Brazil, Israel, Afghanistan, Ghana, Federal Republic of Germany, Algeria and Australia took part. An amendment as proposed by the delegate of Ghana was carried by a vote of 54 in favour, none against and 16 abstentions. The Commission adopted the draft resolution as amended, by 54 votes in favour, none against and 16 abstentions, and recommended to include the substance of it into para.2090 of the proposed Work Plan set out in document 17 C/5, Section 2.13.

Sub-Chapter 2.2 - Scientific and Technological Research and Higher Education

Section 2.21 - Scientific Research and Higher Education

(a) Promotion of research and training in the basic sciences

102. At the opening of the debate, the Chairman brought to the attention of the Commission the recommendations of the Resolutions Committee. The draft resolutions 17 C/DR.45, 51 and 52 were noted without discussion or vote, for inclusion in the Work Plan.

103. The delegate of Poland introduced draft resolution 17 C/DR.125, regarding the celebration of the 500th anniversary of the birth of Copernicus, and emphasized the fact that many Member States were sponsoring it. A number of delegates took the floor to support this resolution, which was adopted by acclamation.

104. The delegates of 34 Member States took part in the rest of the discussion. In general, they expressed their support for the proposed resolution 2.21 and the work plan of this section, as set out in document 17 C/5.

105. Many delegates expressed approval of the activities of international centres such as the International Centre for Theoretical Physics in Trieste, and of regional centres such as the Latin American Centre for Physics, the Latin American Centre for Biological Sciences and the Latin American Centre for Mathematics, and supported the training function which these centres are performing. One delegate proposed that some academic recognition be given to the courses at the International Centre for Theoretical Physics at Trieste. Several delegates recalled in this connexion that support cannot be provided by Unesco for more than ten years to an international centre. One delegate pointed out that at the half-way mark thought should be given to reducing rather than increasing Unesco's aid to the Trieste Centre, which already amounted to one-fifth of the total budget for this section.

106. The Director of the Latin American Centre for Physics, at the invitation of the Chairman, briefly outlined the programme of this Centre, which now has entered its 10th year of life due to the support of Unesco. He mentioned that Unesco is now co-operating with the Centre on the basis of a joint programme which is aimed at the training of scientific personnel and at the implementation of an information programme.

107. Several delegates expressed satisfaction and supported the long-term post-graduate training courses, mentioning that this programme should be enlarged in order to meet the increasing demand for qualified manpower in basic sciences, and should include courses of interdisciplinary nature.

108. A number of delegates mentioned the direct link which exists between economic development and scientific research, stressing therefore the need for more effort to be put into assisting the training of qualified scientific manpower and research workers in the least-developed countries. Another delegate

supported the idea that the research programmes co-ordinated by Unesco should be more clearly linked to development.

109. One delegate suggested that in developing countries centres of excellence in particular disciplines could undertake the training of specialists for the countries of the region. Some delegates supported the idea of having Unesco assist in the establishment of regional networks of research institutions.

110. Some delegates expressed their concern at the lack of continued assistance given to scientists and research workers upon their return to their home institutions. One delegate stressed the need for an easy flow of scientific equipment to institutions in the developing countries, and suggested that Unesco should make a study of the availability of scientific equipment for research and training in these countries.

111. The delegate of France, introducing draft resolution 17 C/DR.219, expressed his strong support of the programme in computer sciences and underlined the rôle of informatics in scientific research and development. He suggested that co-operation with the International Bureau of Informatics - International Computation Centre, Rome, should be strengthened. Other delegates supported these suggestions.

112. The delegates of fifteen countries expressed satisfaction with the programme in the Life Sciences; one delegate asked for a breakdown of the budget for cell biology and multidisciplinary brain research; two delegates stressed that Unesco should give less support to symposia, and another was of the opinion that basic research should be left to other organizations.

113. Several delegates stressed the importance of fundamental research in the Life Sciences as a basis for finding solutions to many of the problems facing the modern world; one delegate of Hungary mentioned that with the support of UNDP and Unesco, a Biological Research Centre of the Hungarian Academy of Sciences is being established in Szeged and suggested that mention of this be made in paragraph 2138 of the Work Plan.

114. Several delegates praised the work of the committee of three Nobel Prize winners which had made a re-evaluation of Unesco's programme in the life sciences and its co-operation with IBRO and ICRO; one delegate had some reservations, as he considered that the reviewing committee was too closely involved with the work of IBRO and ICRO.

115. One delegate emphasized the importance of the unique form of co-operation between Unesco and ICRO, which co-ordinated and promoted international research at very low cost and achieved excellent results in initiating practical science programmes in developing countries.

116. One delegate stressed the importance of applied microbiology and the valuable spin-off from the Conference on the Global Impacts of Applied Microbiology, organized by ICRO and sponsored by Unesco and WHO in his country.

117. The delegate of Japan announced that his country was considering to organize a regional training course on applied microbiology of one year duration, in 1973 and subsequent years. He also stated that Japan was considering being the host to a meeting of experts to outline the possibility of the development of a regional network of scientific research centres in 1974. He emphasized that Unesco should continue its support to microbial culture collections and suggested that the words "in particular those in the field of microbial culture collections" should be added to paragraph 2131 in the Work Plan. One delegate did not share this opinion.

(b) University science education

118. Of the delegates who participated in the discussion, fifteen referred to various aspects of university science education, expressing in general their satisfaction and support.

119. One delegate made a statement on innovations in the structure and organization of higher education in science and technology in his country; the delegate of Israel emphasized the need for Unesco to accept a rôle in planning science and technology in new universities, both in developing and in developed countries, and offered to put at the disposal of a relevant study group the experience and technical information from his country. The latter statement was favourably commented upon by three other delegates.

120. Several delegates commented upon the transfer of pre-university science teaching to the Education sector of Unesco. Some apprehension was expressed at this, and delegates expressed a wish to be kept informed of the progress of the newly-transferred Division. The programme remaining in this section was felt to be less valuable as a result.

121. Two delegates expressed interest in the proposed comparative studies of science education, which might serve as guidelines for their own university science programmes, and another hoped to find in them some ways of relieving the excessive burden of studies often placed upon undergraduates in scientific disciplines.

122. Other delegates called for studies of science education in the framework of a general university education, for the identification and support of potential centres of excellence as national and regional institutions, and for studies of the rôle of science education in industrial development. The delegate of Ghana suggested that workshops to study curriculum reform in the teaching of science, similar to those planned for Asian and Latin American regions, be organized in the African region in 1976.

123. The Swiss delegation considered that the budget appropriation for Unesco's programme to stimulate and co-ordinate the various programmes for research in the life sciences should be split into two, one in regard to collaboration with ICRO in the field of cell biology, the other in regard to collaboration with IBRO for multidisciplinary brain research.

124. In his reply to the discussion, the Assistant Director-General for Science explained that Unesco is not supporting research as such but, in co-operation with ICRO and IBRO, stimulates and co-ordinates research programmes through the organization of training courses, a fellowship programme and, in some cases, symposia or conferences. He gave a breakdown of the budget for Unesco's programmes in cell biology and multidisciplinary brain research, and thanked the delegate of Japan for the offer of training courses in microbiology and for considering being the host to a meeting to study the creation of a network of research centres.

125. With regard to the International Centre for Theoretical Physics, he mentioned the high standard of the work of this institution and the associate professorship scheme which is intended to reduce the migration of talent. He stated that Unesco's support to the Centre would probably decline after 1978 and that the Centre should thereafter seek direct support from Member States.

126. He recognized the need for increased action in the field of computer sciences and said that Unesco will strengthen its co-operation with IBI-ICC in connexion with the application of computers for development. He emphasized that the use of science and technology for developing countries needs more reflexion and a more planned and methodological approach.

127. In response to a comment that the staff for section 2.21 seemed to have grown considerably without a corresponding growth in programme, he pointed out that the programme in university science education represented only the beginning of a programme to satisfy urgent needs for improvement in this throughout the world. He declared that new ways of organizing science education must be found at all levels, from course teaching to university structure; and that Unesco would use several devices as outlined in the Draft Programme to discover them or to develop them, and to disseminate the results.

128. The Commission decided, by 46 votes in favour, one against and 5 abstentions, to incorporate the substantive paragraphs of draft resolution 17 C/DR.27, as revised by the sponsors, into the work plan of section 2.21, paragraph 2108. The delegate of the United Kingdom explained his vote.

129. The Commission decided by 46 votes in favour, none against and 7 abstentions, to incorporate the operative paragraph of draft resolution 17 C/DR.219 Rev. as an additional paragraph of proposed resolution 2.21.

130. The Commission decided unanimously that paragraph (a), sub-paragraph (iii) of the proposed resolution 2.21 be amended to read as follows, by the addition proposed in draft resolution 17 C/DR.133:

> "(iii) by assisting Member States, at their request, in the creation and development of their institutions and facilities for scientific research and training".

131. The Commission decided, by 40 votes in favour, 4 against and 9 abstentions, to request the Director-General to take into account the substantive paragraphs of draft resolution 17 C/DR.187, with operative paragraph 2 amended in accordance with the recommendation of the Resolutions Committee, in the preparation of document 18 C/5.

Section 2.22 - Technological Research and Higher Education

132. At the opening of the debate on this subject, the Chairman recalled that in document 17 C/6, while approving the project resolution 2.22 as contained in document 17 C/5, the Executive Board proposed to add to paragraph (a) (i) the words: "less polluting or", making it read: "by fostering international co-operation in selected breakthrough fields which will permit the development of less polluting or pollution-free sources of energy, an increase in production through better materials and the improvement of communication systems".

133. As regards draft resolutions submitted by Member States, the Chairman drew the Commission's attention to the recommendations made by the Resolutions Committee in document 17 SC/2 Add. 1-4, namely that Commission II take note, without vote or discussion, of DR.42 presented by the Arab Republic of Egypt, DR.78 presented by Brazil, DR.112 presented by Argentina, DR.160 presented by Argentina, Brazil, Paraguay and Uruguay; also of DR.114 presented by Argentina but as referring to section 2156; 17 C/DR.33 and 56 presented by India, DR.61 presented by Italy and DR.107 presented by France were transmitted to the Commission for consideration.

134. The delegate of India stated that Unesco should cut out small programmes and direct itself to specific areas such as that of Heat and Mass Transfer, with applications in the field of Solar Energy, Water Desalination, Agricultural, Environmental and Wind Power Sciences. As feasibility studies are needed in these areas, he presented draft resolution 17 C/DR.33, requesting the Director-General to undertake a feasibility study of the promotion of regional research programmes and including, for that purpose, the $20,000 mentioned in the note of the Director-General. Following the recommendations of the CASTASIA Conference held in New Delhi in August 1968, and recognizing the importance of multidisciplinary research centres for enabling developing countries to achieve the critical mass effect required in the field of economic and scientific development, he presented draft resolution 17 C/DR.56.

135. The delegate of Italy presented draft resolution 17 C/DR.61. He agreed with the note by the Director-General recommending the insertion of the words: "systems engineering" after the phrase "... in such fields as ..." in the second sentence of paragraph 2173 of the Work Plan.

136. The delegate of France presented draft resolution 17 C/DR.107, proposing to amend sub-paragraph (a) (i) of proposed resolution 2.22, by adding, between the words "materials" and "the improvement", the phrase "the avoidance of losses due to wear and friction in machines".

137. The delegates of sixteen Member States took part in the ensuing discussion. At the invitation of the Chairman, the representative of the Council for Mutual Economic Assistance made a statement.

138. Several delegates expressed their support for draft resolutions 17 C/DR.33, 56 and 61. On the other hand, many delegates felt unable to support 17 C/DR.107, on the grounds that an initiative for the creation of an international union of tribology should come from experts in the field rather than from Unesco.

139. Many delegates stated their support for the programme contained in section 2.22. Most of them praised the programme of international co-operation in research and training of scientists to be launched with the International Centre for Mechanical Sciences in Udine and the International Centre for Heat and Mass Transfer in Belgrade, in view of the excellent work of these centres in research and in the training of scientists from developing countries.

140. One delegate stressed the importance of emphasizing the human aspects of environmental engineering at the expert meeting on this subject to be held in conjunction with WHO and UNIDO.

141. Many favourable references were made to the programme of training specialized personnel in the engineering sciences needed by the developing countries, especially through the organization of post-graduate courses in collaboration with universities and research institutions. Delegates transmitted offers from their countries to co-operate in such activities and urged the transformation of certain national centres into centres with regional vocations.

142. One delegate expressed his support of the programme for regional co-operation in engineering education and expressed the willingness of his country to participate in the work of the groups in South Asia and South East Asia. Another speaker mentioned the problem of isolation of engineers and scientists in developing countries, and welcomed any activities likely to bring them into contact with colleagues in other countries.

143. Several delegates stressed the need for curricula reform. The establishment in developing countries of courses in such subjects as food processing, building and road construction, petrochemicals and rural applications of engineering was supported. Other subjects mentioned as needing emphasis included environmental engineering, systems engineering, computer science for engineers, and the social implications of engineering activities.

144. One delegate said that it was becoming apparent that the whole character of engineering education needs to be reformed, so that the initial education of engineers be designed as an integral part of their continuing education.

145. The programme relating to co-operation between industry and education was supported by several delegates, of whom two emphasized the need to disseminate widely any studies on such topics as continuing education and education-industry co-operation.

146. One speaker drew attention to the fact that the World Federation of Engineering Organizations (WFEO) was not explicitly mentioned in the programme, and hoped that it could play a significant rôle in developing engineering education in the world, in collaboration with Unesco.

147. Many delegates emphasized the importance of the programme of technician training, especially in developing countries where repair and maintenance of equipment are of primary importance.

148. Several delegates stressed the imbalance in the output of engineers and technicians and the need to train larger numbers of technicians. They expressed the hope that funds for technician training would be redistributed in future budgets in such a way as to permit the programme regarding the training of high-level technicians to be developed in accordance with the importance it has in developing countries. The hope was also expressed that the programme in the education sector would be harmonized with that in the science sector.

149. One delegate expressed his appreciation of the technical training programme, especially in regard to the quantitative evaluation of needs and the qualitative improvement of technical training. He regretted that the report on this activity was not being adequately disseminated.

150. Two delegates stressed the substantial imbalance between the UNDP programme of assistance and the Regular Programme contained in section 2.22. They felt that there would be a natural tendency for staff to devote most of their time to the predominant UNDP programme but hoped that the situation would be changed in future.

151. Two delegates stated their concern at the non-uniform increase in the budgetary provisions for the different activities to be continued in the Medium-Term Outline Plan. On this point, the Chairman explained that the different trends in the UNDP activities and in the Regular Programme budget are due to the anticipated fall in UNDP funding in the last years of the Medium-Term Plan.

152. The representative of the Council for Mutual Economic Assistance stressed the importance of training scientific personnel initially in those disciplines which are critical for development in all areas.

153. In his reply to the discussion, the Assistant Director-General for Science thanked the delegates for their favourable comments on the programme contained in section 2.22, and especially those delegates who offered the help of their countries for specific parts of that programme.

154. As regards the draft resolution 17 C/DR.56, he explained that it is Unesco's wish to establish multidisciplinary centres, but this cannot be done with the Organization's own funds; extra-budgetary funds are needed for such a purpose. A preliminary study should be made by governments in order to specify the kind of centres needed and their location. The Assistant Director-General explained that, as a follow-up of the CASTASIA Conference, Unesco had already prepared a feasibility study for such a centre in one country, but that the capital and recurrent costs are beyond Unesco's possibilities.

155. Although recognizing the importance of Tribology, the Assistant Director-General felt that Unesco could not give it high priority. He agreed that the initiative for the establishment of an international union should come from the scientists concerned.

156. The Assistant Director-General explained that the World Federation of Engineering Organizations was not mentioned in the draft programme and budget because, at the time, it was not known whether the Executive Board was going to re-establish co-operative relations with the Federation.

157. The Assistant Director-General gave assurance that the publication and dissemination of the work dealing with technician training will be reviewed and ameliorated. At the same time he assured delegates that quantitative analysis of national needs, which is being undertaken, has more relevance to the methodology and the study of ratios than to absolute figures. Finally, he confirmed that Unesco will continue its existing co-operation with the International Labour Organisation in the domain of training higher technicians.

158. The delegate of Upper Volta proposed to add to sub-paragraphs (a) (ii) and (b) (ii) of proposed resolution 2.22 (paragraph 2153 of 17 C/5) the words "creation or" between the words "in the" and the word "development".

159. The Commission rejected by 24 votes against, 19 votes in favour and 23 abstentions, the Executive Board's recommendation (document 17 C/6, Part II, B. (iv) 2) to amend paragraph (a) (i) of proposed resolution 2.22.

160. The Commission rejected by 17 votes against, 7 in favour and 37 abstentions, draft resolution 17 C/DR.56.

161. The delegate of France announced that he wished to delete from draft resolution 17 C/DR.107 the part referring to paragraph 2154 of the Work Plan. The Commission adopted by 41 votes in favour, 1 against and 14 abstentions, the first part of this draft resolution.

162. The Commission adopted unanimously the amendment to proposed resolution 2.22 proposed orally by the delegate of Upper Volta (see paragraph 158 above).

163. The Commission adopted, by 27 votes in favour, 3 against and 26 abstentions, draft resolution 17 C/DR.33 concerning paragraphs 2154-2156 of the Work Plan.

164. The Commission adopted by 54 votes in favour, none against and one abstention, draft resolution 17 C/DR.61 on the basis of the modification to paragraph 2173 of the Work Plan proposed in the note by the Director-General on this draft resolution.

165. One delegate expressed his objection to one of the projects listed in paragraph 2170 of the Work Plan.

Sub-Chapter 2.3 - Environmental Sciences and Natural Resources Research

Section 2.31 - Ecology and the Earth Sciences

I. The ecological sciences

166. At the invitation of the Chairman, the Chairman of Commission V made a brief statement regarding the conclusions of the Commission on the inter-sectoral activities of Unesco relating to man and the environment, as set forth in the recommendation adopted at the close of the discussions. Commission V noted that these activities did not as yet constitute an actual programme but rather a re-ordering of activities around a topic. MAB was considered the main axis at present of such activities and Commission V recommended it should be accorded the highest priority. The Commission stressed the need to strengthen Unesco's educational activities, which were considered inadequate, and those relating to the social sciences of which part should be entirely integrated with MAB. Lastly, it pointed out that, since environmental problems and perception of them differed, depending on whether a country was industrialized or not, particular attention should be paid to regional and sub-regional activities, without on that account neglecting the establishment of standards and criteria applicable at the international level.

167. The delegates from 31 countries then took part in the discussions, referring both to MAB and to activities connected with natural resources research and ecology. In this connexion, several delegates considered that these two aspects of the programme of ecological sciences should be more closely integrated, while recognizing that MAB, as an intergovernmental programme, did not constitute Unesco's sole activity in this field.

168. The representative of the United Nations Secretariat for the Conference on the Human Environment and the representative of IUCN made statements to the Commission.

A. Intergovernmental programme on Man and the Biosphere

169. The programme on Man and the Biosphere (MAB) was unanimously approved by the delegates, who considered it to be clear, practical, flexible and well-structured, and who for the most part whole-heartedly endorsed it. Several delegates referred to the pioneer rôle of Unesco in the field of the environmental sciences. Some of them also observed that MAB constituted the axis around which other measures taken in Member States were already revolving.

170. Some delegates expressed satisfaction that MAB was taking over from IBP, going beyond the scope of that programme and placing greater emphasis on more specific problems, while taking human action into account.

171. A number of delegates urged, moreover, the need to integrate the social sciences more closely with the MAB Programme and to confer on research an interdisciplinary character, at the same time pointing out the difficulties inherent in such an undertaking.

172. Many delegates recalled that it would be desirable when implementing the MAB Programme to take account of the differences existing between the industrialized countries and the developing countries. In the developed countries, the main problem is the adverse effects on environment resulting from their technological advance; in developing countries, it is the effects on environment due to their low level of economic development, their lack of adequate power and the existence of widespread poverty, disease and insanitary conditions in these countries. Some delegates pointed out that, from the outset, MAB was intended for all countries and that scientific studies of different levels of complexity and difficulty could be included in the Programme.

173. Several delegates expressed satisfaction that MAB had assumed proportions which appeared to be more realistic than those indicated in document 16 C/78 of the sixteenth session of the General Conference. However, some delegations considered that subjects of prime importance, deserving the same priority as had been attributed to certain projects which had been adopted, if not a higher priority, should be taken into consideration.

174. In this connexion, the delegate of the USSR, supported by other countries, submitted draft resolution 17 C/DR.62, proposing that two additional projects - (1) Research on environmental pollution and its effect on the biosphere and (2) Research on the long-term influence of human economic activity on the energy resources of the biosphere - should be taken into consideration in the programme on Man and the Biosphere. With regard to the first project, some delegates thought that continuous monitoring of pollution on a world-wide scale in the different environmental contexts was outside Unesco's field of competence. It was also pointed out that MAB should above all concentrate on the pollution of terrestrial ecosystems, since marine pollution was more within the purview of the IOC and atmospheric pollution within that of the WMO. Some delegates also expressed the opinion that research on the problems of pollution should be co-ordinated within the framework of decisions taken at the Stockholm Conference on the Human Environment. As regards the second project, some delegates expressed apprehension regarding the expenditure that would be entailed by such research. Many delegates, furthermore, feared that the inclusion of these two projects at that stage in the development of the programme might diminish the effectiveness of its execution and might distort the main lines of research which had already been determined. Most delegates, however, recognized the importance of these two problems.

175. The delegate of Cuba submitted draft resolution 17 C/DR.147, recommending the inclusion in MAB of studies and research on: (a) the effects of various land tenure systems on the biosphere and the environment; (b) the effects on the biosphere of war, and of chemical warfare in particular. Most delegates recognized the importance of such studies, but some believed that they fell rather within the competence of FAO or the United Nations.

176. With regard to DR.62 and DR.147, many delegates stressed the rôle of the International Co-ordinating Council of MAB and its competence to examine the advisability of including new activities in the Programme while, of course, recognizing that final authority for these decisions rested with the General Conference of Unesco.

177. Many delegates described action, taken or planned, to implement the MAB Programme in their countries, and announced that national committees of MAB had been or were being set up. National priorities regarding different MAB projects were mentioned. One delegate pointed out that the Programme was extremely useful in that it provided a framework for the planning of research at national level. Another delegate drew attention to the catalytic effect of MAB at national level.

178. The delegate of Austria invited the group of experts on the MAB project relating to the impact of human activities on mountain ecosystems to hold their meeting in her country in January 1973, and mentioned that the organization of post-graduate training courses in mountain ecology and limnology is envisaged.

179. The delegate of Poland announced the organization by his country, within the context of the MAB Programme, of an international symposium on the methodology of systems analysis of the environment.

180. Many delegates stressed the extremely important part that training and educational activities could play in securing the success of the MAB Programme. One suggested that all activities for the post-graduate training of ecologists undertaken by the Science Sector should be included under this head.

181. Many delegations emphasized the importance of undertaking or supporting regional or sub-regional action, while also encouraging national activities. In connexion with support for regional co-operation, the delegation of the Arab Republic of Egypt submitted draft resolution 17 C/DR.49. One delegate stressed the fact that the structure of MAB facilitated the promotion of bilateral or multilateral scientific collaboration between industrialized and developing countries.

182. Some delegates considered it necessary to increase the staff of the Programme secretariat and also considered that the financial resources made available to it were inadequate. Delegates expressed the wish that assistance be obtained for certain MAB projects from the special Environment Fund envisaged by the United Nations. Some regretted the slight attention paid by UNDP to ecological research and asked that increased aid for activities associated with the MAB Programme be provided by the Governing Council of the UNDP.

183. Several delegations stressed the need for close co-ordination with MAB of certain activities in the long-term hydrology and oceanography programmes. Many delegations expressed their satisfaction with the close liaison maintained both with organizations of the United Nations system and with ICSU and IUCN in the implementation of the MAB Programme.

B. Integrated natural resources research and ecology

184. A number of delegates expressed general satisfaction with the activities proposed in this sub-Section. In accordance with DR.28 presented by the Arab Republic of Egypt, and noted by the Commission without debate, it was

agreed that the International Co-ordinating Council for MAB should be invited to give its views on the planning and implementation of the activities under this sub-Section.

185. One delegate suggested that in future programmes, consideration be given to the suggestions of the Natural Resources Research Committee at its last session to establish a small advisory committee at the level of the Department of Environmental Sciences to help co-ordination and ensure adequate balance between the activities of this Department, including the four major intergovernmental programmes.

186. Several delegates spoke favourably of the proposed activities for the promotion of integrated research on natural resources. Special importance was attached to the development of cartography and thematic mapping.

187. One delegate asked for clarifications on the nature of the activities covered by paragraphs 2230 and 2236 of 17 C/5.

188. Several delegates spoke on the co-operation that had been developed between Unesco and various programmes and Unions of ICSU, and more particularly with the International Biological Programme. The hope was expressed that this type of co-operative work would be continued, and that strong links would be established with the Scientific Committee on Problems of the Environment (SCOPE). The delegate of the Netherlands expressed the hope that Unesco would support the first International Congress of Ecology, organized by the International Association for Ecology and scheduled to take place in the Netherlands in 1974. The Commission agreed that the Work Plan should be amended accordingly. Several delegates spoke favourably of the work of the International Union for the Conservation of Nature and Natural Resources (IUCN), and expressed the desirability of increasing the co-operative activities with this organization. Increased financial support for this organization in future years was advocated by some delegates.

189. A number of delegates expressed their support for the activities proposed for the training of specialists (paragraph 2249-2260 of 17 C/5). In accordance with DR.37 presented by Brazil and the recommendation of the Resolutions Committee, the Commission agreed that the following phrase should be added to paragraph 2249 of the Work Plan: "... and on co-operation in the establishment of post-graduate courses in ecology sector."

190. Several delegates pointed out that activities on the education and training of cartographers, successfully undertaken in previous years, had been omitted. The Commission agreed that the Work Plan should be amended accordingly.

191. Several delegates felt that training courses should, as far as possible, be developed on regional or even sub-regional levels, so that individuals receive training in the ecological conditions which are familiar to them. Several countries expressed interest in hosting the proposed course on tropical ecology (paragraph 2256). The delegate of Italy attached special importance to the pilot project on the application of integrated surveys to environmental studies,

to be developed in the Mediterranean region (paragraph 2258). The delegate of the United Kingdom expressed the hope that co-operation might be developed between Unesco and the proposed training course on Integrated Surveys of Natural Resources and Land Use, to be held at the University of Reading and starting in 1973. The delegates of France, the Netherlands and Spain indicated their continued support to the post-graduate courses mentioned in this Section. The delegate of France stressed that thanks to the co-operation of the Moroccan Government the course which his country had organized, with Unesco assistance, on development of the natural environment had been partly held in Morocco.

192. With reference to DR.46 presented by India and in accordance with the recommendation of the Resolutions Committee, the Commission agreed that the following sentence be added to paragraph 2262 of the Work Plan: "In particular a feasibility study will be undertaken on the possible establishment of a regional centre for study and research on natural products in South Asia."

193. Some delegates stressed the need for assistance in the establishment and maintenance of herbaria and zoological collections in developing countries.

194. In his reply the Assistant Director-General for Science expressed his gratification at the variety of initiatives on the MAB Programme that were taking place at the national level, in both developing and developed countries.

195. He agreed to draw the attention of the International Co-ordinating Council for MAB to the various suggestions made regarding the substance and focus of individual MAB research projects.

196. He recognized the importance of strengthening co-operation with other intergovernmental and non-governmental organizations, and noted in this respect that the same governments represented at the Unesco General Conference were also members of the governing bodies of other United Nations agencies. He suggested that delegates to these governing bodies might give support to the MAB Programme, since the extent of co-operation of these different agencies in the MAB Programme would ultimately be determined by the decisions taken by their governing bodies.

197. The Assistant Director-General noted the wishes of the Commission for increased co-ordination between the different sectors of Unesco. Concerning the co-ordination of activities under the MAB Programme and activities under "Integrated natural resources research and ecology", he noted that the same staff were responsible for the administration of these two groups of activities. He welcomed the offers of individual governments to continue to promote, or to instigate, in co-operation with Unesco, training courses on integrated surveys.

198. A number of delegates spoke on the subject of draft resolutions 17 C/DR.62 and 17 C/DR.147. With regard to 17 C/DR.147 proposing an amendment to paragraph 2202 of the Work Plan of document 17 C/5, the Commission recommended by 23 votes in favour, 4 against and 16 abstentions, that the following text be added to the said paragraph: "The International Co-ordinating Council on Man and the Biosphere should consider including in the framework of this Programme research concerning: (a) the effects of various land tenure systems on the biosphere and on the environment; (b) the effects of war, and particularly of chemical warfare, on the biosphere."

199. With regard to 17 C/DR.49, presented by the delegate of the Arab Republic of Egypt, proposing an amendment to paragraph 2225 of the Work Plan of document 17 C/5, the Commission recommended by 13 votes in favour, 7 against and 24 abstentions that, subject to the availability of funds, the budget allocation for this paragraph be increased to $153,000 for the purpose of undertaking regional institutional co-operation in integrated ecological research in different regions, and particularly in the Arab region.

200. With regard to 17 C/DR.62, amended in accordance with a text presented jointly by the delegates of the Union of Soviet Socialist Republics and the United Kingdom, the Commission recommended by 40 votes in favour, none against and 2 abstentions, that draft resolution 2.311 be amended by the addition of this text.

II. The Earth Sciences

201. At the opening of the debate on this subject, and at the invitation of the Chairman, the President of the International Union of Geological Sciences (IUGS) made a statement. He informed the Commission that the Council of IUGS, meeting in Montreal in August 1972, had unanimously endorsed the proposals contained in the report of the Intergovernmental Conference of Experts for preparing the International Geological Correlation Programme (IGCP), (document SC/MD/28). He drew attention to the differences in nature between the International Union, a non-governmental body, and Unesco and pointed out that, through the Union, Unesco could draw upon the wealth of scientific talent available in the international geological community.

202. The delegate of the United States of America expressed his strong support of the IGCP and presented draft resolution 17 C/DR.122, as amended in accordance with the recommendation of the Resolutions Committee.

203. The delegate of the Federal Republic of Germany expressed her approval of the IGCP and presented draft resolution 17 C/DR.95; she indicated her acceptance of the suggestion contained in the Note by the Director-General on this draft resolution.

204. The delegate of the Arab Republic of Egypt presented draft resolution 17 C/DR.29.

205. The delegates of eighteen Member States took part in the ensuing discussion. They were unanimous in expressing their support for the IGCP and the intention of their respective Governments to participate actively in this Programme.

206. A number of delegates, however, expressed strong reservations with regard to the proposed procedure for the appointment of the members of the Board which will supervise and co-ordinate the implementation of the Programme. Some delegates feared that if this procedure were adopted the developing countries would be insufficiently represented on the Board. They would have preferred the Board to consist of representatives of Member States elected by the General Conference, as is the case with the other international programmes such as UNISIST and the Man and Biosphere Programme. Other delegates welcomed the

IGCP as a co-operative venture of Unesco and IUGS and indicated that they were satisfied with the proposed arrangement whereby the members of the Board were to be appointed on an individual basis. One delegate, while expressing his preference for a Board composed of representatives of elected Member States, said that he would be willing to suspend judgement until there had been an opportunity to judge how the procedure proposed by the Director-General would work in practice.

207. One delegate felt that it would not be necessary for the IGCP Board to meet every year, but that a meeting at least once every two years would be sufficient. He also stressed that the list of projects in paragraphs 2280 and 2281 of the Work Plan should be considered as provisional and subject to review by the Board.

208. Several delegates drew attention to the difficulties that developing countries might have in participating in the IGCP, due to shortage of scientific manpower and research facilities. They urged that the local training of specialists in geology and the development of facilities in the developing countries be given high priority in the implementation of the Programme. The importance to developing countries of studies on mineral resources and on engineering geology was stressed by several delegates.

209. The delegate of Austria announced that her Government would be prepared to make available, from 1974 onwards, a limited number of one-year scholarships to post-graduates from developing countries for participation as associate experts in IGCP activities in Austria, provided the travel costs could be met from other sources.

210. Some delegates expressed concern at the possibility of duplication between activities to be undertaken under the IGCP and some of those proposed by the Director-General in section (a) of the programme in earth sciences and natural hazards, in particular those mentioned in paragraphs 2284 and 2285 of document 17 C/5.

211. Several delegates expressed approval of the proposed activities in geophysics and the study of natural hazards. Mention was made of the International Seismological Centre in Edinburgh and of the International Institute of Seismology and Earthquake Engineering in Tokyo. The delegate of Mexico confirmed his Government's intention to continue its support of the UNDP/Unesco project in soil dynamics related to earthquake engineering. The delegate of Peru expressed his country's interest in the proposed study of the seismicity of the Northern Andes.

212. In his reply to the discussion the Assistant Director-General drew attention to the fact that the IGCP had been conceived as a venture to be undertaken jointly by Unesco and the IUGS, and that the procedure proposed for the appointment of members of the IGCP Board corresponded to the nature of our co-operation with IUGS in this matter. Although a precedent for this type of organization existed in the organization of the Global Atmospheric Research Programme, jointly undertaken by the World Meteorological Organization and ICSU, he agreed that it represented a new departure for Unesco. Care would be taken in the appointment

of members of the Board, to ensure a proper geographical distribution and an adequate representation of the developing countries. He assured the Commission that Member States would be consulted by the Director-General before appointments to the Board are made, would be regularly informed and would have an opportunity to review the situation at each session of the General Conference. He agreed that meetings of the Board might normally be convened not less than once every two years, but thought that, in the initial phase of the Programme, a meeting each year would be necessary.

213. With regard to some of the activities mentioned in paragraph 2284 of document 17 C/5, he agreed that they were closely related to the IGCP, but this was chiefly a matter of presentation. In any case, the same staff will deal with these geological activities and with IGCP.

214. In conclusion, the Assistant Director-General replied in detail to other questions raised by delegates in the course of the discussion, and expressed thanks to the delegates of those countries which had accepted to act as hosts to training courses in the earth sciences.

215. The Commission decided, by 33 votes in favour, 4 against and 17 abstentions, to recommend the incorporation of the substantive paragraph of draft resolution 17 C/DR.29 into paragraphs 2280 and 2281 of the Work Plan in Section 2.31 (II,A) of document 17 C/5, subject to the availability of the necessary funds.

216. The Commission took note of draft resolution 17 C/DR.71 and decided to recommend its incorporation into Section 2.31 (II, B) of the Work Plan.

217. The Commission decided, by 44 votes in favour, 2 against and 8 abstentions, to recommend that operative paragraph 5 of draft resolution 2.313 be amended in the manner recommended by the Executive Board in document 17 C/6, Part II.B.V.

218. The Commission decided, by 29 votes in favour, none against and 19 abstentions, to recommend that the fourth paragraph of the preamble of draft resolution 2.313 be amended in the manner suggested in the note by the Director-General on draft resolution 17 C/DR.95.

219. The Commission decided, by 23 votes in favour, none against and 30 abstentions, to recommend:

(a) that operative paragraph 2 of draft resolution 2.313 be amended in the manner suggested in draft resolution 17 C/DR.122, with the addition of the words "the main lines of" after the word "accepts";

(b) that the following operative paragraph be added to draft resolution 2.313:

"8. Specifies that activities herewith ascribed to IGCP in no way replace or preclude the carrying out of other IUGS or Unesco programmes in the field of geology."

Section 2.32 - Hydrology

220. The delegates of 30 Member States took part in the discussion on Section 2.32; all expressed satisfaction with the present hydrology programme and approval of the objectives and general content of the Long-Term Programme in Hydrology. The importance of the programme both for developing and developed countries was stressed by several delegates.

221. The Vice-Chairman of the Co-ordinating Council of the International Hydrological Decade made a statement on behalf of the Council and introduced the report of the Council on its activities (document 17 C/67). In his presentation of this document, he emphasized the overwhelming support of all International Hydrological Decade National Committees for the Long-Term Programme in the field of hydrology drafted by the Council.

222. The delegate of the Arab Republic of Egypt presented draft resolutions 17 C/DR.36 and 17 C/DR.43, the first proposing a post-graduate course in the Arab States and the latter requesting assistance for the preparation of the basis for the hydrogeological map of the African arid zone north of the equator.

223. The delegate of the USSR introduced draft resolution 17 C/DR.110 aiming at clarifying the measures to be taken concerning the Long-Term Programme in Hydrology. He indicated his accpetance of the suggestions contained in the note by the Director-General on this draft resolution.

224. The delegate of Brazil presented draft resolution 17 C/DR.182 Rev. stressing the need for giving priority to applications of hydrology linked with the problems of large natural areas in the arid tropical and humid tropical regions.

225. The representative of Finland, on behalf of the five Nordic countries, introduced draft resolution 17 C/DR.128 stressing the need for full co-operation of intergovernmental organizations in the Long-Term Programme in Hydrology. He indicated his agreement with the suggestions contained in the note by the Director-General on this draft resolution.

226. The delegate of New Zealand presented draft resolution 17 C/DR.183 emphasizing the need for correlating the International Hydrological Programme with the Man and the Biosphere Programme. He indicated his acceptance of the suggestions contained in the Note by the Director-General on this draft resolution but he emphasized the need for identifying the MAB Programme in the programmes to be correlated.

227. The delegate of Yugoslavia introduced draft resolution 17 C/DR.180 concerning regional co-operation of Danube countries.

228. In the course of the discussion of draft resolution 17 C/DR.180, several delegates, while expressing their support for regional activities in principle, felt that the theme of the draft resolution is covered in the programme of the forthcoming hydrological meeting in Europe to be held in Bern in August 1973. As a consequence, the delegate of Yugoslavia withdrew his draft resolution.

229. Several delegates emphasized the importance of expanding regional co-operation in hydrology, especially when common river basins are shared. The need for the collaboration of every country in the basin was stressed. One delegate called attention to the importance of establishing regional networks, particularly for the development of studies on the quality of water. Another delegate recommended that regional co-operation be concentrated on concrete and specific projects to avoid dispersion of efforts.

230. The importance of training in hydrology and hydro-sciences was emphasized by several delegates. Some of them called attention to the need for implementing regional training and for the establishment of permanent regional institutes in developing regions. The delegate of Kenya recommended the creation, with the assistance of Unesco, of a sub-regional school for applied hydrology in the semi-arid zone of Eastern and Central Africa.

231. In discussing the relation of the Hydrology Programme with other programmes of Unesco, one delegate called attention to the interdependence of the Hydrology and the Man and the Biosphere programmes. Another delegate recommended that all hydrology projects in the Earth Sciences programme should be consolidated with the Hydrology programme. In this connexion, one delegate stressed that the future development of hydrology would be justified by its interest to developing countries and as a contribution to the Man and Biosphere Programme. In this connexion he felt that the need for hydrologists would increase considerably in the future.

232. A number of delegates stressed the importance of hydrological mapping and recommended that Unesco continue and intensify its activities in this field.

233. The growing rôle of the influence of man on the hydrological cycle in regards both to quality and quantity was emphasized by several delegates. The importance of the influence of urbanization schemes of particular interest to developed countries was recalled.

234. The delegate of Sudan pointed out the importance of the International Hydrological Decade for the stimulation of national campaigns and referred in particular to the Sudanese "Freedom from Thirst" Campaign.

235. One delegate called attention to the need for continuing the development of methods for use in areas with insufficient data or of difficult access.

236. Some delegates, while expressing general satisfaction with the budgetary provisions in section 2.32 of document 17 C/5, questioned the adequacy of the funds available for certain activities, in particular for the organization of the End-of-Decade Conference, seminars, and post-graduate courses and publications. One delegate drew attention to the importance of the effective publication of results at the end of the International Hydrological Decade as called for in document 17 C/67.

237. Practically all delegates who took the floor expressed their approval of the International Hydrological Programme prepared by the Co-ordinating Council of the IHD to be launched in 1975. They indicated their intention of participating fully in the Programme.

238. One delegate stressed that the contents of the Long-Term Programme are quite broad and that it provides scope but not direction, and, in this connexion, he recommended that the End-of-Decade Conference and the Intergovernmental Council which is to be established, focus on the immediate objectives of the Programme in order to make the best use of Unesco's resources and facilities.

239. Referring to the proposed machinery of co-ordination, one delegate expressed his support for the establishment of an intergovernmental council to co-ordinate Unesco's long-term activities in hydrology. He felt that such a Council could also serve as an international forum for exchange of views on hydrological and other water-related problems requiring international co-operation.

240. One delegate suggested that Unesco take a leading rôle in the promotion of the general advancement of hydrology. Another delegate expressed the wish that the co-ordinating machinery of the International Hydrological Programme take into due account the existing inter-agency co-ordinating arrangements, particularly the ACC Sub-Committee on Water Resources Development.

241. Some delegates expressed satisfaction with the co-operative arrangements made by Unesco and WMO concerning the organization of the End-of-Decade Conference and the Long-Term Programme in Hydrology.

242. One delegate drew attention to the need for the few Member States which have not yet done so to establish National Committees for the International Hydrological Decade. These Committees could serve subsequently for the International Hydrological Programme.

243. One delegate recommended that all Unesco's future activities in hydrology be concentrated on the International Hydrological Programme and in this connexion suggested that all technical proposals to be submitted to subsequent sessions of the General Conference be previously examined by the Council, which has more adequate technical and scientific competence for this purpose.

244. One delegate expressed his satisfaction at the increasing interest of Member States in hydrology, in view of the growing importance of water in the life of man, but regretted that attempts had been made to reduce the importance of the programme. He expressed satisfaction that hydrology is finally presented on a suitable basis in the long-term plan of Unesco but emphasized the need for appropriately reflecting this in the introductory chapters of both the 17 C/5 and 17 C/4, by including Hydrology in the list of the five major programmes of the Science Sector.

245. One delegate called attention to the need for giving priority to the activities of interest to developing countries and indicated that in this connexion the implementation of the Hydrology programme, as of others in the Science

Sector, still lagged behind in relation to needs. Several delegates emphasized in this connexion the need for applied research in hydrology of special interest to developing countries.

246. In his reply to the discussion ADG/SC expressed his appreciation for the support expressed by all delegates for Unesco's current programme and particularly for the establishment of the International Hydrological Programme to be launched in 1975.

247. He agreed that the Long-Term Programme in Hydrology, as presented in 17 C/68, might appear too ambitious but that it should be kept in mind that it is a long-term programme constituting a framework for more concrete projects, the scope of which will be defined by periodical intergovernmental conferences.

248. He indicated that the final versions of the 17 C/5 and 17 C/4 would contain, in the Introduction, appropriate mention of the International Hydrological Decade and International Hydrological Programme.

249. In accordance with the recommendation of the Resolutions Committee, draft resolution 17 C/DR.30 was noted, without vote or discussion.

250. In accordance with the recommendation of the **Resolutions Committee**, draft resolution 17 C/DR.152 Rev. was noted on the understanding that the matter will be referred to the Co-ordinating Council of the IHD.

251. The Commission decided, by 16 votes in favour, 11 against and 32 abstentions, to incorporate the substantive paragraph of draft resolution 17 C/DR.43 into paragraph 2352 of the Work Plan in Section 2.32 (III) of document 17 C/5, subject to the availability of the necessary funds.

252. In accordance with the recommendation of the Resolutions Committee, draft resolution 17 C/DR.83 was noted on the understanding that appropriate reference will be made in Section 2.32 (I), paragraph 2323 of the Work Plan.

253. In accordance with the recommendations of the Resolutions Committee, draft resolution 17 C/DR.109 was noted on the understanding that appropriate reference would be made in Section 2.32 (I), paragraph 2321 of the Work Plan.

254. The Commission decided, by 68 votes in favour, none against and 2 abstentions, to adopt the text of the fourth paragraph of the preamble of proposed resolution 2.323 in document 17 C/5 as suggested in the Note by the Director-General on draft resolution 17 C/DR.110.

255. The Commission adopted by 46 votes in favour, none against and 6 abstentions the addition of a new paragraph 2 to be inserted after paragraph 1 in proposed resolution 2.323, as suggested in draft resolution 17 C/DR.182 Rev.

256. The Commission adopted unanimously the amendments to paragraph 2 of proposed resolution 2.323, as suggested in draft resolution 17 C/DR.128.

257. The Commission adopted unanimously the addition of a new paragraph between the present paragraphs 2 and 3 of proposed resolution 2.323, as suggested in the Note by the Director-General on draft resolution 17 C/DR.183, with an oral amendment proposed by the delegate of New Zealand.

258. The Commission adopted by 49 votes in favour, none against and 14 abstentions, an oral amendment proposed by the delegate of the USSR to the amendment to point 6(a) of resolution 2.323 proposed by the Executive Board in 17 C/6, Part II, B.VI, paragraph 3.

259. The Commission adopted unanimously the amendment to point 6(a) of resolution 2.323 proposed by the Executive Board in 17 C/6, Part II, B.VI, paragraph 3, as amended by the Commission.

260. The Commission adopted by 57 votes in favour, 1 against and 11 abstentions, an oral amendment proposed by the delegate of the U.S.A. to proposed resolution 2.325.

261. The Commission decided, by 22 votes in favour, 19 against and 28 abstentions, to recommend the incorporation of the substantive paragraph of draft resolution 17 C/DR.36 into paragraph 2339 of the Work Plan in Section 2.32 (III) of document 17 C/5, subject to the availability of the necessary funds.

262. The Commission decided unanimously to adopt the amendment to paragraph (b) of recommendation 2.32 in paragraph 2144 of document 17 C/4, proposed in draft resolution 17 C/DR.128.

263. The Commission adopted by 69 votes for, none against and one abstention, the amendment to paragraph (c) of recommendation 2.32 (document 17 C/4, paragraph 2144) suggested in the note by the Director-General on draft resolution 17 C/DR.186.

264. The Commission adopted unanimously the recommendation made by the Executive Board in document 17 C/6, part II, VI, paragraph 5, to amend paragraph 2171 of document 17 C/4 in order to bring it into line with point 5 of draft resolution 2.323 (paragraph 2326 of document 17 C/5).

265. In accordance with the recommendations of the Resolutions Committee, the Commission noted without vote or discussion draft resolutions 17 C/DR.198 and 17 C/DR.214 on the understanding that they would be taken into account in the preparation of subsequent versions of the Draft Medium-Term Outline Plan.

Section 2.33 - Oceanography

I. Intergovernmental Oceanographic Commission

266. The Chairman of the Commission opened the debate on this subject by indicating the action proposed by the Resolutions Committee, as contained in 17 C/SC/2 and Addenda. The delegate of Brazil presented draft resolutions 17 C/DR.53 and 17 C/DR.196; the delegate of the United Kingdom presented draft

resolution 17 C/DR.189; and the delegate of the United States of America later presented a revised combination of draft resolutions 17 C/DR.176 and 17 C/DR.192, originally submitted by Canada and the United States of America respectively. The delegate of the United States of America also presented draft resolutions 17 C/DR.190, 17 C/DR.193 and 17 C/DR.194.

267. The delegates of eighteen Member States took part in the ensuing discussion. Most of them indicated support of IOC, and many expressed the view that the present budget and staffing of IOC were inadequate to allow satisfactory operation of the existing programme, let alone certain additional tasks which are expected to devolve on IOC during the forthcoming biennium. However, many delegates pointed out that several aspects of the IOC programme needed either review or more attention.

268. In view of the growing importance of oceanographic programmes and the need for IOC to take an active part in their international co-ordination, the delegates indicated that the budget and staff should be increased, particularly to support training and education and mutual assistance projects. It was pointed out by several delegates that the recommendations adopted by the United Nations Conference on the Human Environment had called upon IOC to assume wider responsibilities in regard to marine pollution programmes and this would require commensurate staff increases. Others pointed out that the funding of such projects should be provided by the sponsoring agency rather than IOC itself. The Commission noted that IOC had established an ad hoc Working Group to study the effectiveness of IOC and to make proposals on, inter alia, rationalizing its structure and increasing the efficiency of the Secretariat. This study should provide clearer guidance on the measures needed to improve IOC's ability to cope with its responsibilities. It was suggested that interim measures be taken to increase the staff and budget in order to relieve the present problems facing IOC, since any definitive action on the ad hoc Working Group's recommendations is some time away.

268.1 One delegate observed that it was proposed in document 17 C/5 to augment the staff of the Division of Oceanography by four, and suggested that some of these be appointed instead to the IOC. Another delegate, however, was of the opinion that the budget and staffing of the Division of Oceanography should not be allowed to suffer as a result of an increase in the allocation to IOC.

269. Many delegates felt that the training, education and mutual assistance programme, and support to developing countries in the form of instrumentation and technical advice on such matters as resource management and development, should be given greater attention by IOC; These were considered to be primary functions of IOC, but it was pointed out that IOC does not at present have a full-time staff member available to deal with these programmes.

270. A number of delegates felt that the respective responsibilities of IOC and the Division of Oceanography must be clearly defined. It was recognized that, were there to be complementary activities, full co-operation between the two was essential. The view was expressed that the rôle of the Division was to assist Member States to the point where they could participate in oceanographic programmes on a local, regional and global basis, while the function of IOC was

to co-ordinate international programmes. In that IOC was now a separate entity, one delegate asked whether it could now be expected that the IOC Secretary would report directly to the Director-General, working through the Assistant Director-General for Science. It was also requested that the IOC should be given the possibility of studying the budgetary provisions concerning it, by means of a similar procedure to that used for the International Bureau of Education.

271. Several delegates indicated that, in view of programme requirements and staff and budget limitations, the programmes undertaken by IOC should be given an order of priority. The Commission did not wish to establish these priorities, since this was felt to be the prerogative of IOC, but it nevertheless noted that training, education and mutural assistance, GIPME and IGOSS were three programmes deserving high priority. One delegate stated that, to conduct these programmes effectively, IOC must refrain from giving token support, which entailed considerable effort, to numerous other programmes, particularly those encompassing new geographical areas.

272. Certain delegates expressed the opinion that IOC must foster closer co-operation with those United Nations organizations participating in the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO). Many of the IOC programmes were of interest and often complementary to those of the ICSPRO agencies. The Commission was reminded that the United Nations Conference on the Human Environment had recommended that steps be taken to make IOC an effective joint mechanism for governments and United Nations organizations so as to enable it to accept additional responsibilities for the promotion and co-ordination of scientific programmes and services. The ICSPRO agencies offered an additional source of staff of which IOC should take full advantage, and one delegate suggested that the Director-General of Unesco should consult ICSPRO agencies about their possible financial contributions to IOC.

273. A number of delegates emphasized that most oceanographic questions requiring study were regional in nature and that the concept of conducting regional programmes should be followed. This would ensure concentration of effort by interested Member States and could have the added advantages of a greater degree of programme management by participants and support of other international bodies that may be co-ordinating complementary regional programmes.

274. The delegate of Austria informed the Commission that his country was prepared to join the common efforts to develop and strengthen international training in the field of biological oceanography. He envisaged the continuation of the international courses in advanced marine ecology, and expected that the IOC Working Group on Training, Education and Mutual Assistance would act in establishing soon the necessary contacts between Member States interested and the "I. Zoologisches Institut der Universität, Wien".

275. The delegate of Sudan pointed out that the Red Sea had unusual oceanographic conditions, notably its high water temperatures, and was of great economic importance. The living resources of the Red Sea, marine pollution, and the preservation of the coral were of concern to the States bordering the Red Sea. He recommended that co-operative programmes dedicated solely to the Red Sea to study these subjects be considered by IOC.

276. The Chairman gave the floor to the representative of the International Council for the Exploration of the Sea, who commented upon the present conditions under which IOC was operating and upon possible future developments.

277. In his reply to the discussion, the Assistant Director-General for Science recognized the inadequacy of the staff and budget of IOC, which was due to the fact that Unesco had necessarily had to impose limitations to keep within the overall budget. He suggested that assistance may be forthcoming from the environmental fund presently under consideration by the United Nations General Assembly and that the General Conference may wish to recommend that IOC be given high priority to obtain support from that fund. The Assistant Director-General stated that IOC had a responsibility to ensure that training, education and mutual assistance were included in its programme. Training, education and mutual responsibilities of the Division of Oceanography would be closely co-ordinated with the IOC programme. The Assistant Director-General informed the Commission that IOC had scheduled the first session of its newly re-formed Working Group on Training, Education and Mutual Assistance for 7-13 March 1973.

278. He noted that Sudan was not a Member State of IOC, but indicated that her request for a Red Sea project would be forwarded to IOC for consideration. The efforts by Austria in marine biological sciences and the stated intention of Nigeria to join IOC were gratifying.

279. He said that the IOC Secretary had already consulted the Secretary-General of the Inter-Governmental Maritime Consultative Organization on the relations between the two organizations and would also consult all ICSPRO agencies and the World Health Organization in the near future. With regard to the study on the effectiveness of IOC being conducted by the IOC ad hoc Working Group referred to in paragraph 3 above, the Assistant Director-General indicated that any substantive change in arrangements would need the approval of the eighteenth General Conference.

280. In conclusion, the Assistant Director-General stated that the Secretariat considered training, education and mutural assistance, GIPME and IGOSS to be the highest priority programmes of IOC, but possibly priority between these programmes should be in the order of their listing here.

281. The Commission decided, by 22 votes in favour, 5 against and 25 abstentions, to incorporate the substantive paragraph(s) of draft resolution 17 C/DR.53 into paragraph 2367 of the Work Plan, subject to the availability of necessary funds.

282. The Commission decided, by 43 votes for, none against and 8 abstentions, to amend proposed resolution 2.331 (paragraph 2354 of document 17 C/5) according to the revised draft resolution combining 17 C/DR.176 and 17 C/DR.192. Upon a request from the floor, the combined resolution had previously been voted upon paragraph by paragraph as follows:

New paragraph 1 (formerly paragraph 1, DR.176)	43 for, none against, 5 abstentions
New paragraph 2 (formerly paragraph 2, DR.176)	44 for, none against, 4 abstentions
New paragraph 3 (formerly paragraph 3, DR.176)	26 for, 8 against, 15 abstentions
New paragraph 4 (formerly paragraph 1, DR.192)	29 for, 7 against, 15 abstentions
Amendment to paragraph 5 (formerly paragraph 2, DR.192)	46 for, none against, 3 abstentions
New paragraph 5 as amended:	46 for, none against, 4 abstentions The Commission decided to amend this paragraph as follows: replace the phrase "the first major component" by the words "one of the main projects"; add the words "and continuation of the work of the Integrated Global Ocean Station System (IGOSS)" after the parenthetical phrase.
New paragraph 6 (formerly paragraph 3, DR.192)	46 for, none against, 4 abstentions
Amendment 1 to paragraph 7	36 for, none against, 8 abstentions
Amendment 2 to paragraph 7	30 for, none against, 15 abstentions
New paragraph 7 (formerly paragraph 5, DR.176) as amended:	43 for, none against, 7 abstentions The Commission decided, after the words "Director-General", to replace the words "to take" by the words "by taking"; to delete the word "interim"; to delete all words after the word "monitoring".

The delegate of Argentina explained her vote.

283. Draft resolution 17 C/DR.184, submitted by New Zealand, was withdrawn by the delegate of that Member State as he was satisfied that his point was now covered by the new draft resolution combining 17 C/DR.176 and 17 C/DR.192.

284. The Commission rejected draft resolution 17 C/DR.190 by 14 votes against, 5 in favour and 28 abstentions.

285. The Commission decided, by 19 votes in favour, none against and 31 abstentions, to recommend that the substantive paragraph of draft resolution 17 C/DR.196 be incorporated into paragraph 2371 of the Work Plan, subject to

the availability of necessary funds.

The delegates of the Federal Republic of Germany, France, the United Kingdom, the United States of America and the Union of Soviet Socialist Republics explained their votes.

286. The Commission adopted, by 42 votes in favour, none against and 7 abstentions, draft resolution 17 C/DR.189 on the understanding that the Director-General would take the substantive paragraph into account when preparing future plans and programmes of Unesco, including its medium-term plans.

The delegate of Argentina explained her vote.

287. The Commission rejected draft resolution 17 C/DR.193 by 15 votes against, 8 in favour and 25 abstentions.

288. The Commission decided, by 38 votes in favour, none against and 6 abstentions, to recommend that the first two sentences of paragraph 2197 be combined in the Draft Medium-Term Outline Plan for 1973-1978 in the manner suggested in the draft resolution 17 C/DR.194.

II. Promotion of the general advancement of marine science

289. The Chairman of the Commission opened the debate on this subject by indicating the action proposed by the Resolutions Committee in regard to draft resolution 17 C/DR.161 Rev. The delegates of Brazil, New Zealand, the Arab Republic of Egypt, Peru and the United States of America presented their respective draft resolutions dealing with this sub-Section.

290. The delegate of **Brazil**, in presenting draft resolutions 17 C/DR.181 and 17 C/DR.200, pointed out that the establishment of regional oceanographic institutes, as requested in draft resolution 17 C/DR.200, was in agreement with the basic principles for oceanographic development and support. He also considered that marine pollution, while important, should not be given special mention in paragraph (b)(i) of proposed resolution 2.33 (17 C/4, paragraph 2144) in that it was only one of several subject areas requiring support.

291. The delegate of New Zealand emphasized that, while being an important subject, monitoring of marine pollution was not the only matter of concern, and that Unesco should give higher priority to environmental conservation and marine biological studies, especially in regions such as the South Pacific islands where the inhabitants have limited resources to conduct these programmes themselves. The delegate presented draft resolution 17 C/DR.185 and indicated his acceptance of the suggestion contained in the Note by the Director-General on this draft resolution.

292. The delegate of the Arab Republic of Egypt presented draft resolutions 17 C/DR.31 and 17 C/DR.50. The delegate strongly supported the Unesco programmes in training and education and expressed the need for continued support for the Oceanographic Data Centre and Marine Biological Reference Collection Centre established in his country with Unesco assistance.

293. In presenting draft resolution 17 C/DR.169, the delegate of Peru emphasized strongly the need for training of marine scientists, especially in the developing countries.

294. The delegate of the United States of America presented draft resolutions 17 C/DR.191 and 17 C/DR.203.

295. The delegates of eleven Member States took part in the ensuing discussion.

296. Several delegates felt that it was necessary to foster the advancement of oceanography through regional programmes and in particular through support of regional centres, or national centres co-operating with centres of other nations. Unesco's support for such co-operative ventures was called for and specific reference was made to the need for a network of specialized centres in Latin America and to support for the Marine Science Centre for Arab countries. Mention was also made of the Phuket Marine Biological Centre in Thailand. The delegate of Italy informed the Commission that the Osservatorio Geofisico Sperimentale, Trieste, was working on the development of new methodology and the automation and intercalibration of instruments, and wished to co-operate with the laboratories in Barcelona and Brussels working on the same subject (cf. paragraph 2375, 17 C/5).

297. One delegate questioned the difference in cost of staff between IOC and the Division of Oceanography for the period 1973-1974. Since it appeared that the funds for the Division staff, which was to be six, were lower than for the same number of staff for IOC, it was suggested that there should be a more equitable distribution of funds in the future. She suggested that the programmes for regional and inter-regional co-operation and assistance to Member States should have the biggest growth rate in the Division during the years 1975-1978.

298. Several delegates emphasized that problems related to marine pollution were important and needed immediate consideration, but that the effort on such matters should not hinder further development of other vital programmes, such as training, education and mutual assistance. Other delegates called for strong programmes dealing with conservation and pollution; their appeal was not to be taken as being in conflict with high priority being given to other programmes, but only to ensure that the deteriorating environment be given high priority as well.

299. One delegate requested information on the training, education and mutual assistance opportunities presently available to Latin American countries.

300. In his reply to the discussion, the Assistant Director-General stated that the positive statements and proposals of the delegates were gratifying and therefore his comments would be limited. He had noted the concern of the delegate of Libya on the slow progress of Mediterranean studies and this would be taken into consideration in the future. In answer to the question related to IOC and Division of Oceanography staff costs, the Assistant Director-General indicated that this is due to the greater number of senior posts (P-5) within IOC.

301. In regard to existing training and education opportunities in Latin America, the Chief of the Division of Oceanography made reference, as examples, to several training courses recently held, particularly to those in Venezuela and Argentina. Further, he expressed his satisfaction with the interest expressed by several Latin American countries in studies of the possibilities of developing regional activities for training and education at several existing institutes of marine sciences in this area.

302. The Commission decided, by 25 votes in favour, 5 against and 34 abstentions, to incorporate the substantive paragraph of draft resolution 17 C/DR.31 into paragraph 2387 of the Work Plan, subject to the availability of necessary funds. The delegates of the Federal Republic of Germany, France, Israel, United Kingdom and the United States of America explained their votes.

303. The Commission decided, by 15 votes in favour, 7 against and 36 abstentions, to incorporate the substantive paragraph of draft resolution 17 C/DR.50 into paragraph 2383 of the Work Plan subject to the availability of necessary funds.

304. The Commission recommended, without discussion or vote, that the General Conference take note of draft resolution 161 Rev. as forwarded by the Resolutions Committee.

305. The Commission decided, by 51 votes in favour, none against and 7 abstentions, to recommend:

that the first paragraph of proposed resolution 2.332 be amended in the manner suggested in draft resolution 17 C/DR.169 by adding the words "and with the United Nations Agencies concerned" after the word "organizations"; that sub-paragraph "(d)" of proposed resolution 2.332 be amended by adding the words "especially the developing States" after the word "States".

306. The Commission decided by 24 votes in favour, none against and 37 abstentions that the operative paragraphs of draft resolution 2.332 be amended in the manner suggested by draft resolution 17.C/DR.191 as follows:

sub-paragraph "(a)" - replace the words "of instrumentation and its intercalibration" by the words "the intercalibration of instrumentation";

sub-paragraph "(b)" - add the word "timely" after the word "by"; adding the words "emphasizing the programmes sponsored by the United Nations and its Specialized Agencies, and especially programmes for training of marine scientists" after the word "thereof".

307. The Commission decided by 49 votes in favour, none against and 13 abstentions to recommend that operative paragraph (b) (iv) of proposed resolution 2.33 (paragraph 2144 of 17 C/4) be amended in the manner suggested in draft resolution 17 C/DR.181 as found in the Note by the Director-General, with the addition of the words "and particularly the developing countries" after the words "Member States". Draft resolution 17 C/DR.181 had previously been considered, with separate votes for parts (a) and (b) of the operative paragraph as follows:

part (a) - rejected by 15 against, 11 in favour and 36 abstentions;

part (b) - approved by 58 in favour, none against and 3 abstentions;

308. The Commission decided, by 39 votes in favour, none against and 16 abstentions, to recommend:

that operative paragraph (b) (i) of proposed resolution 2.33 be amended in the manner suggested in draft resolution 17 C/DR.185: with replacement of the words "and especially" by the word "including", with the addition of the words "the effects of man on the environment" after the words "related to"; with deletion of the words "and to pollution monitoring".

An amendment to draft resolution DR.185, which had previously been adopted by 36 votes in favour, 2 against and 22 abstentions, was incorporated into the above recommendations.

309. The Commission adopted by 29 votes in favour, none against and 24 abstentions, draft resolution 17 C/DR.200, on the understanding that the Director-General would take the substantive paragraph into account when preparing future plans and programmes of Unesco, including its medium-term plans.

Three votes had previously been taken regarding amendments to the penultimate and operative paragraphs of this draft resolution, as follows:

In the penultimate paragraph, the Commission had decided:

by 16 votes in favour, none against and 35 abstentions to: add the words "and other institutions of countries of Latin America are" after the words "Sao Paulo" and the words "in the area" after the word "oceangraphers"; delete the words "a major" after the word "of"; and add an "s" to the word "centre";

by 22 votes in favour, none against and 29 abstentions, to approve the amended paragraph.

In the operative paragraph, the Commission had decided, by 20 votes in favour, none against and 30 abstentions, to:

add the words "and other institutions of Latin American countries with enough scientific structure" after the words "Sao Paulo";

add the words "network of" before the word "regional";

add the letter "s" to the word "Institute";

add the words "specialized in various branches of oceanography in" after the word "Institutes";

delete the word "for" after the word "Institutes".

310. The Commission rejected draft resolution 17 C/DR.203 by 22 votes against, 10 in favour and 28 abstentions.

Field Science Offices, Office of the Assistant Director-General, Resumés and Introductions

311. After the opening of the debate on this subject, the delegates of 11 Member States took part in the discussion.

312. One delegate supported Unesco's aim to strengthen the rôle of the Field Offices in implementing activities which benefit developing countries. He expressed the wishes of his Government that liaison with ECAFE be conducted through the New Delhi and Djakarta Offices.

313. Many delegates expressed the view that the Field Science Offices can be very effective if adequately staffed with qualified personnel given specific responsibilities. The Field Science Offices should be granted some power to sanction expenditures. Their duties and functions should be clearly identified, bearing in mind that their major function is to assist in the development of national and regional scientific co-operation.

314. One delegate expressed the view that the image of Unesco could be improved by strengthening the Field Science Offices, especially in Asia. He indicated that a minimum critical number of staff members is required who would be identified with a region and its specific problems. Communications between regional scientific centres should be improved if the Field Science Offices can be involved.

315. Many delegates pointed out the importance of decentralization from Headquarters to the Field Science Offices.

316. Two delegates wondered about the effectiveness of the Field Science Offices in the implementation of regional and national projects, for which their staffing and budget are insufficient.

317. The delegates of India and of the Arab Republic of Egypt proposed orally a draft resolution according to which the role, functions, status and staffing of the Field Science Offices should be studied by the Executive Board, and the Director-General would be invited to take the recommendation of the Board into consideration while drafting document 18 C/5.

318. Other delegates supported this view and pointed out the need to establish a Field Science Office for West Africa and a second Office in Latin America.

319. The Assistant Director-General for Science noted that most of the comments which called for the strengthening of the Field Science Offices were reiterated by delegates from developing countries. He has reached the conclusion, after visiting three Field Science Offices, that these Offices could become an important component of Unesco activities, that each Office should have sufficient professional staff members plus associate experts and that each should be adequately financed in order to be able to invite scientists from the region to participate in its activities.

320. The Assistant Director-General shared the view that the Field Science Offices, as they are, are too small. He agreed on the desirability of having some staff members from the Field Offices participate in the General Conferences.

321. The Assistant Director-General drew attention to paragraphs 2210-2212 of document 17 C/4, where it is indicated that the professional staff of each Office would be increased to at least five specialists, with various competences according to the needs of the region, while core libraries would be established for the regular dissemination of information to scientific institutions and research workers of the region.

322. The Assistant Director-General agreed with the proposal of the delegates of India and Egypt to review the functions and structure of the Field Science Offices. He also felt that there was a need for the establishment of an Office in West Africa. An increase in the staffing of existing Offices and the establishment of new ones might be achieved by transferring staff from Headquarters to the Field.

323. One delegate asked the reason for the discontinuation of the ECAFE/Unesco Unit in Bangkok. The Assistant Director-General explained that it had been decided to discontinue this Unit in order to concentrate activities, for reasons of economy, in the Offices in New Delhi and Djakarta, which will take over the functions of the Bangkok Unit.

324. The Commission then proceeded to take note of the Introduction to Chapter 2 of the Draft Programme and Budget for 1973-1974 and to vote on the overall Budget for this Chapter. Its decisions on these points are recorded in the Annex - Recommendations to this report. The delegates of the United Kingdom and of the Union of Soviet Socialist Republics explained their votes on this budget; the delegate of the USSR stated that he had abstained because of overlap between the different sections of this Chapter and because of the reservations that he had already expressed with regard to the budget of Section 2.11.

Examination of the Report of the Working Party on Priorities

325. The Chairman of the Working Party on Priorities (see Introduction, paragraph 6) presented the Working Party's report (see Appendix) on its work. This report contained the following proposals for the allocation of funds which may become available as a result of savings.

Part A - Proposals for the forthcoming biennium (in execution of 17 C/5)

Work Plan ref. (17 C/5)	Sponsor	Funds required (in $ thousands)	Field
Allocate to:			
para. 2041	Peruvian proposal voted 3.11.72	7	Science policy
para. 2056		3	" "
		10*	

* saving effected by the deletion of para. 2026

DR. ref. (in numerical order)	Sponsor	Funds required (in $ thousands)	Field
33	India	20	Technological research
35	Arab Republic of Egypt	30	UNISIST
36	"	31	Hydrology
43	"	25	"
50	"	13	Oceanography
53	Brazil	20	"
196	"	57	"
		196	
		24	CASTAFRICA, "MAB"
		220	

Part B - Recommended guidelines for consideration in the drafting of the programme of the next biennium (document 18 C/5)

DR. ref. (in numerical order)	Sponsor	Funds required (in $ thousands)	Field
29	Arab Republic of Egypt	94	Earth sciences
31	" "	35	Oceanography
49	" "	100	Ecology
		229	

326. Four delegates expressed their appreciation of the work accomplished by the Working Party.

327. The Chairman invited the Commission to decide whether or not to vote immediately on Part A of the proposals, on the assumption that these recommendations would be transmitted to a special meeting composed of the five Programme Commissions and of the Administrative Commission which will submit a consolidated proposal, within the limits of the additional funds available, to the Plenary for decision. By 33 votes in favour, 10 against and 6 abstentions, the Commission decided to do so.

328. The Commission adopted, by 32 votes in favour, none against and 16 abstentions, Part A of the proposals of the Working Party.

329. The Commission took note of Part B of the proposals of the Working Party.

Item 26 - DESIRABILITY OF ADOPTING AN INTERNATIONAL INSTRUMENT ON THE STATUS OF SCIENTIFIC RESEARCH WORKERS

330. This subject was introduced by the representative of the Director-General who gave a brief introduction of the history of this project, an outline of the needs for such a recommendation and the nature of the instrument as at present conceived. The delegate of Iraq presented draft resolution 17 C/DR.266.

331. Delegates from 22 Member States took part in the ensuing discussion. All but one of the delegates accepted the need for such an instrument, and believed it could be most useful in the form of an international recommendation. They also believed that an intergovernmental meeting of experts was necessary to draft the final version of such a recommendation.

332. There were, however, some reserves expressed concerning this activity. Several delegates thought that problems needed to be resolved concerning the definition of "research worker". One delegate suggested that this definition should not be restricted to functional criteria alone. Several other delegates suggested that the proper place of academic teachers engaged in research must be made clear in the Instrument. One delegate suggested the need to study potential employment relationship problems before the final drafting of the international Instrument. One delegate stressed the need to reflect in the Instrument the high vocation and responsibility of scientific workers in promoting the social and cultural progress of mankind.

333. Several delegates offered their countries' services to participate in the drafting of an international Instrument.

334. The representative of the World Federation of Scientific Workers made a statement at the request of the Chairman. In his statement he outlined his organization's interest in his proposed activity and its willingness to co-operate.

335. The Legal Adviser clarified the potential composition of the proposed committee of governmental experts by stating that its membership was open to every Unesco Member State. He also described the timing and procedure through which such an international Instrument would have to pass.

APPENDIX

Report of the Working Party on Priorities for consideration by Commission II at its fifteenth meeting, Saturday, 4 November 1972

I. BACKGROUND

Origin and membership of the Working Party

1. The Working Party was set up by unanimous decision of the Commission at its eighth meeting on Monday, 30 October 1972.

2. It was constituted as follows: Chairman, Dr. István LANG (Hungary); members: Dr. Felix GUILLIERON (Switzerland); Professor Claudiu IONESCU-BUJOR (Romania); Professor Lévy MAKANY (Congo); Dr. El SAMMANI (Sudan); Dr. Guillermo SOBERON (Mexico); and Mr. Yutaka SUGIYAMA (Japan) (these members, whose names appear in alphabetical order, having been chosen respectively from the six geographical regions represented by Unesco Member States).

Mandate of the Working Party

3. Our mandate was to rank, in a suggested order of priority, the proposals (essentially but not exclusively draft resolutions in the series 17 C/DR....), adopted by the Commission during the course of its debates, and containing proposals for new or expanded or increased programme activities requiring extra funds for their execution.

4. The basic constraint governing our deliberations, as explained in Commission by the latter's Chairman, was that the total cost of this priority-ranked "shopping list" of proposed supplementary activities, to be proposed by Commission II, should be in the order of magnitude of $200,000. Bearing in mind the phrase "gentleman's agreement" used by the Commission's Chairman in making that announcement, we have interpreted this figure as being indicative only; that is to say, as representing not an absolute ceiling, but one which gives the Commission an idea of what it may realistically and reasonably ask of the Director-General in the light of the overall budgetary savings which we understand the latter confidently expects to be able to effect within the Organization's global budget for the biennium 1973-1974.

5. In saying above (paragraph 3) that the proposals we have considered were "essentially but not exclusively" contained in draft resolutions (figuring in the DR-series of documents, and voted by the Commission), we recall that, in addition to such documents, the Commission has also taken decisions and expressed wishes, during its debates, the effect of which is in some cases to increase, in others to decrease, the work-load described in the Work Plan of

document 17 C/5. To make a concrete example, the Commission will recall that as recently as yesterday morning in its fourteenth meeting, on a proposal from Peru, the Commission agreed that a certain activity should be expanded, with a consequent increase of $7,000 in the funds required.

6. It is this suggested "shopping list" that we now present to the Commission.

7. Before doing so, however, we wish to note briefly, for the Commission's better understanding of our proposals and for the Conference's record, the following matters.

Precedents

8. We have examined the parallel situation which arouse two years ago, in what was then Programme Sub-Commission II, when it was a question of finding extra funds, required for certain priority aspects of the programme such as follow-up of the "MINESPOL" Conference, strengthening the UNISIST programme, etc. The records of that situation, which we have carefully considered, show that on the occasion of this seventeenth ordinary session of the General Conference, the Commission is in a somewhat different, and in fact more satisfactory position. It is not our intention to go into the similarities and differences in detail: suffice it to say that we welcome this opportunity, presented to the Commission, of giving certain small impulsions or redirections to the proposed programme and so removing the feeling, which some delegations have had in the past, that it was unnecessarily difficult to introduce any changes once the C/5 document had been laid before the General Conference.

II. THE WORKING PARTY'S WORKING METHODS, LEADING TO UNANIMOUS CONCLUSIONS

9. Against this background, we have approached our task in a completely pragmatic spirit. We have met on five times in as many days, on four occasions formally, with the help of interpreters, whom we take this opportunity of thanking, along with the Secretariat members who have assisted us.

10. Whenever we felt in need of further facts, or of first-hand understanding of national or regional needs, or of specialized administrative or financial experience, we have not hesitated to call for assistance, and we are happy to record that in all cases this has been provided in a thoroughly co-operative manner.

11. From all these contacts, and our own discussions, there has emerged a clear consensus. This covers not only the substance of the recommendations we lay before you; it also covers the way in which we suggest that these recommendations - if you accept them - should be transmitted to the Director-General who, we understand, will in due course lay his consolidated proposals before the General Conference.

12. Balancing the criteria of merit, of regional significance, of feasibility and of "expensiveness" as best we may, and making the best of judgement we can, we lay the following proposals before you for the Commission's decisions.

III. DRAFT RECOMMENDATION FOR CONSIDERATION BY COMMISSION II (SCIENCE)

13. The two-part draft recommendation set out below should be read in the light of three remarks:

(a) Our presenting certain proposals in a second category (Part B) implies no unfavourable judgement as to their merit; we have acted with the full agreement of the delegate of the country concerned.

(b) As to the figure of $3,000 appearing in Part A, it is our strong recommendation that this be earmarked for the Work Plan, paragraph 2056 of 17 C/5 (Special Intergovernmental Committee to be convened for preparation of a Draft International Recommendation on the Status of Scientific Research Workers).

(c) As to the figure of $24,000 appearing in Part A, it is our strong recommendation that this be earmarked principally for two specific programme activities, viz., immediate follow-up on the CASTAFRICA Conference, and ecology including the "Man and the Biosphere" (MAB) programme, the greater weight being give to the former of these.

Part A - Proposals for the forthcoming biennium (in execution of 17 C/5)

Work Plan ref. (17 C/5)	Sponsor	Funds required (in $ thousands)	Field
(i) A specific "saving":			
paragraph 2041 (a saving from "Science in the 1970s")	Peruvian proposal voted 3.11.72	7	Science policy
paragraph 2056 (see paragraph 13 (b) above)		3	Science policy
		10	

Work Plan ref. (17 C/5)	Sponsor	Funds required (in $ thousands)	Field
(ii) DR proposals:			
DR. ref. (in numerical order)			
33	India	20	Technological research
35	Arab Republic of Egypt	30	UNISIST
36	" "	31	Hydrology
43	" "	25	Hydrology
50	" "	13	Oceanography
53	Brazil	20	Oceanography
196	Brazil	57	Oceanography
		196	
(iii) Proposals made during the Commission's debates:		24	CASTAFRICA, "MAB", (see paragraph 13 (c) above)
		220	

Part B - Recommended guidelines for consideration in the drafting of the programme of the next biennium (document 18 C/5)

DR. ref. (in numerical order)	Sponsor	Funds required (in $ thousands)	Field
29	Arab Republic of Egypt	94	Earth sciences
31	" "	35	Oceanography
49	" "	100	Ecology
		229	